U.S. Environmental
Protection Agency, Region 5

SITE INVESTIGATION WORK PLAN

Revision 0

Tower Standard Site
Lac du Flambeau Indian Reservation
Lac du Flambeau, Wisconsin

EPA Contract No. EP-W-12-009
Task Order 3012

July 2016

Prepared for:

U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Mail Code: L-8J
Chicago, IL 60604-3507

Bristol
ENVIRONMENTAL REMEDIATION SERVICES, LLC
111 W. 16th Avenue, Third Floor, Anchorage, Alaska 99501

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ACRONYMS AND ABBREVIATIONS

1,2-DCA	1,2-dichloroethane
bgs	below ground surface
Bristol	Bristol Environmental Remediation Services, LLC
CEC	Coleman Engineering Company
DRO	diesel range organics
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
ES	Enforcement Standard
GRO	gasoline range organics
IDW	investigation-derived waste
J.W. Austin	J.W. Austin Associates LLC
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LDF	Lac du Flambeau
LUST	leaking underground storage tanks
MS	matrix spike
MSD	matrix spike duplicate
MTBE	methyl tertiary-butyl ether
Pace	Pace Analytical Services, Inc.
PM	Project Manager
QA	quality assurance
QAPP	Quality Assurance Project Plan
SM	Standard Method
SME	Subject Matter Expert
SW	EPA Solid Waste Test Method
tech memo	technical memorandum
TO	Task Order
VOC	volatile organic compound
WAC	Wisconsin Administrative Code
WI	Wisconsin Method

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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) retained Bristol Environmental Remediation Services, LLC (Bristol), to prepare this Site Investigation Work Plan for the Tower Standard site located on the Lac du Flambeau (LDF) Indian Reservation in Lac Du Flambeau, Wisconsin (Figures 1 and 2). This plan describes the site investigation activities that will occur at this leaking underground storage tank (LUST) site. The EPA assigned this project to Bristol under Contract No. EP-W-12-009, Task Order (TO) 3012. Site investigation activities to be conducted under this TO include installation and development of two groundwater monitoring wells and collection of groundwater samples from the two newly installed wells and four existing groundwater wells.

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2.0 SCOPE OF WORK

Bristol and drilling subcontractor Coleman Engineering Company (CEC) will mobilize to the site in August 2016, to install and develop two groundwater monitoring wells at the Tower Standard site. One well will be installed near the existing MW-16 well pair, to a depth of approximately 60 feet below the ground surface (bgs) and screened just above the bedrock (Figure 3). The second well will be installed near the MW-21 well pair, and will be screened from approximately 23 to 25 feet bgs.

Using low-flow sampling techniques, Bristol will then collect groundwater samples from six monitoring wells, including all three monitoring wells at each of the MW-16 and MW-21 well nests (including the two newly installed monitoring wells). Bristol will submit groundwater samples to Pace Analytical Services (Pace) in Minneapolis, Minnesota, for laboratory analysis of volatile organic compounds (VOCs) (including methyl tertiary-butyl ether [MTBE], and naphthalene), lead scavengers (including 1,2-dichloroethane [1,2-DCA] and ethylene dibromide [EDB]), gasoline range organic compounds (GRO), diesel range organic compounds (DRO), sulfate, hydrogen sulfide, nitrate, and total metals (including arsenic, barium, cadmium, chromium, iron, lead, manganese, selenium, silver and mercury). A total of six primary samples, one field duplicate, one matrix spike (MS)/MS duplicate (MSD) pair, one equipment rinsate blank, and one trip blank will be submitted for analysis.

At the completion of the sampling event and while Bristol personnel are still onsite, a subcontracted, professional surveyor from J.W. Austin Associates, LLC (J.W. Austin) will survey the locations and top of casing elevations of the newly installed monitoring wells.

2.1 PROJECT ORGANIZATION

Descriptions of key staff, and their responsibilities and authorities, are described below.

2.1.1 The EPA Subject Matter Expert

The EPA subject matter expert (SME) for this project is Bob Egan. Mr. Egan is responsible for ensuring that all tasks for the TO are achieved successfully. He will make technical decisions on site management and activities and is ultimately responsible for the overall outcome of the project.

2.1.2 The Bristol Program Manager

The program manager, Scott Ruth, is responsible for overall program performance and quality. Mr. Ruth will be the primary program-level point of contact between the EPA and Bristol. He is responsible for the EPA program, both technically and administratively. Mr. Ruth is responsible for assigning project managers (PMs) and technical support staff based on the nature and complexity of the tasks. Mr. Ruth has several key responsibilities:

- Guide managers and staff on the process and procedures for completing the contractual and technical requirements for starting this support activity
- Provide technical oversight to the PMs
- Define responsibilities and levels of authority
- Establish procedures for project controls and forecasting
- Ensure that systems are in place for monitoring costs, schedule, and performance
- Assign responsibilities for quality assurance (QA), and establishes a system for peer and quality reviews of deliverables
- Integrate subcontractors and fosters Bristol's commitment to small businesses

2.1.3 The Bristol Project Manager

The Bristol PM is Matt Faust. He is responsible for the technical performance and the daily coordination with the SME. As the technical leader, Mr. Faust will be responsible for the technical content of the work and overall project quality. Mr. Faust will have several quality control-related responsibilities:

- Ensure that all planning documents are prepared and reviewed for the project
- Assign project quality control responsibilities to appropriately qualified personnel at the outset of the project
- Select additional technical reviewers for the project
- Communicate project scope requirements to project team members;
- Communicate with the client and subcontractors
- Ensure that all project deliverables and activities comply with planning documents
- Respond to corrective action requests and ensure that deficiencies are corrected in a timely manner

Mr. Faust oversees the preparation of work plans, the quality assurance project plan (QAPP), and the site safety and health plan. The work plans, QAPP, and site safety and health plan describe procedures to be used during Tower Standard site work. These documents also set the guidelines for verifying the quality and integrity of field activities, including environmental sample collection, analytical testing, health and safety hazards identification, and worker protection measures. Mr. Faust will oversee the preparation and submittal of the site sampling technical memorandum after fieldwork is complete.

2.1.4 Subcontractors

Wherever possible, Bristol will subcontract services from local suppliers and emphasize small business support. Bristol will implement subcontracts that provide "best value" to the government and the project. The choice of subcontractors may be affected by requirements such as those of the local Tribal Employment Rights Office. Subcontract types include firm-fixed price and time-and-materials-type subcontracts. Bristol will use four subcontractors for this project:

- CEC of Iron Mountain, Michigan, will install monitoring wells with a hollow-stem auger equipped drill rig. CEC will also perform well development for the newly installed monitoring wells.
- Pace of Minneapolis, Minnesota, will provide analytical services for groundwater samples.

- J.W. Austin will provide professional surveying services.
- SGS Environmental Contracting, LLC will provide investigation-derived waste (IDW) transportation and disposal services.

If additional subcontractors are required, Bristol will provide the subcontractor details to EPA Region 5.

2.2 SCHEDULE

The fieldwork is anticipated to begin early August 2016. The following summarizes key dates and activities for the Tower Standard LUST site investigation:

Date	Activity
July 29, 2016	Submit draft Site Investigation Work Plan for EPA review.
August 2, 2016	Submit final Site Investigation Work Plan to EPA.
August 3, 2016	Bristol and CEC will mobilize and bein site investigation activities.
Late September 2016 (within 30 days of receipt of analytical data)	Submit draft Site Sampling Technical Memorandum for EPA review
Late October 2016 (within 7 days of receipt of EPA comments on draft tech memo)	Submit final Site Sampling Technical Memorandum to EPA

Notes:
CEC = Coleman Engineering Company
EPA = U.S. Environmental Protection Agency
SME = Subject Matter Expert

3.0 FIELD SAMPLING PLAN

This field sampling plan describes procedures that will apply to the site investigation. The QAPP prepared for EPA Region 5 is presented as a separate document (Bristol, 2016). All laboratory samples collected for analysis will be submitted to Pace in Minneapolis, Minnesota.

3.1 CONTAMINANTS OF CONCERN

Specific contaminants of concern for potential petroleum releases to groundwater include VOCs (such as benzene, toluene, ethylbenzene, xylenes, naphthalene, and MTBE), lead scavengers (such as 1,2-DCA and EDB), DRO, GRO, metals (such as arsenic, barium, cadmium, chromium, iron, lead, manganese, mercury, selenium, and silver), sulfate, hydrogen sulfide, and nitrate.

3.2 ANALYTICAL METHODS

The following analytical methods will be used for laboratory analysis of the groundwater samples:

- VOCs by EPA Solid Waste Test Method (SW) 8260 (VOC analyte list will include MTBE, 1,2-DCA, and naphthalene)
- EDB by EPA Method SW8011
- GRO by Wisconsin Method (WI) GRO
- DRO by WI DRO
- Hydrogen sulfide by Standard Method (SM) 4500-S2D
- Sulfate and nitrate by EPA Method 300.0
- Metals by EPA Method 6020B/7471.

Table 1 provides information on the analytical requirements (container type, preservative, holding time, etc.) for each analysis. Containers provided by the laboratory will be pre-cleaned, with the preservative added by the laboratory.

Table 1 Water Analytical Requirements

Matrix	Contaminants of Concern	Analytical Method	Holding Time	Preservative	Sample Size and Container
Water	VOCs	SW8260B	14 days	HCl, cool 2–6°C	Three 40-mL VOA vials
Water	GRO	WI GRO	14 days	HCl, cool 2–6°C	Three 40-mL VOA vials
Water	DRO	WI DRO	7 days	HCl, cool 2–6°C	Two 1-L amber bottles
Water	EDB	SW8011	14 days	HCl, cool 2–6°C	Three 40-mL VOA vials
Water	Hydrogen Sulfide	SM 4500-S2D	28 days	Zinc acetate solution, cool 2–6°C	One 250 mL poly bottle
Water	Sulfate, Nitrate	EPA 300.0	48 hours	cool 2–6°C	One 250 mL poly bottle
Water	RCRA 8 Metals with Mn and Fe added	EPA 6010B/7470	180 days	HNO_3 (pH <2), Cool 4°C	One 500 mL poly bottle

Notes:

°C = degrees Celsius
DRO = diesel range organics
EDB = ethylene dibromide
EPA = U.S. Environmental Protection Agency
Fe = iron
GRO = gasoline range organics
HCl = hydrochloric acid
HNO_3 = nitric acid
L = liter
mL = milliliter
Mn = manganese
pH = potential hydrogen
RCRA = Resource Conservation and Recovery Act
SW = EPA Solid Waste Test Method
WI = Wisconsin
VOA = volatile organic analysis
VOCs = volatile organic compounds

3.3 SITE ACTIVITIES

The following is a description of the field activities and procedures that will be performed for the August 2016 field effort. The following Bristol standard operating procedures are included in Appendix A of this Work Plan.

- BERS-02 Groundwater Sampling
- BERS-03 Sample Management
- BERS-05 Equipment Decontamination
- BERS-07 Monitoring Well Installation
- BERS-08 Water Level Measurement
- BERS-09 IDW Management
- BERS-11 Field Documentation
- BERS-15 Document Control System

Procedures outlined in the text of this Work Plan supersede those described in Appendix A, which are not project-specific but based on industry standard and included here for field guidance.

3.3.1 Monitoring Well Installation and Development

Monitoring well nests MW16 and MW21 currently consist of two wells each (MW16 and MW16D and MW21 and MW21D). CEC will add one additional well to each nest as part of the August 2016 field effort. The monitoring well installed in association with well nest MW16, identified as MW16BR, will be installed in an anticipated total depth of 60 feet bgs, and screened to the top of bedrock. The newly installed well associated with the MW21 nest, identified as MW21M, will be installed to a depth of 25 bgs and screened to 23 feet bgs.

Bristol's subcontractor, CEC, will perform a utility locate prior to site work. Monitoring wells will be installed using hollow-stem auger equipment and will be constructed of 2-inch schedule 40 polyvinyl chloride casing with 2-foot-long 0.010 slot screens. Silica sand, including one foot of fine sand directly above the filter pack, will be placed to approximately 2 feet above the top of the screen. Bentonite chips or bentonite grout will be placed from the top of the sand to within 1 foot of the ground surface. Wells will be completed with flush-mount well guard surface completions. Drilling will be performed blind – no samples will be collected for field screening, laboratory analysis, or for purposes of logging lithology. It is anticipated that some volume of potable water may need to be added to the augers during drilling to combat heaving sand conditions.

Once installation is complete, CEC will develop each new monitoring well for up to one hour. Wells will be allowed to sit, undisturbed for a minimum of 12 hours prior to development, if grout or slurry is used to seal them. If the well cannot be purged dry during development, the well will alternately be surged and purged for a minimum of 30 minutes. The purge and surge cycle will consist of several minutes of surging followed by several minutes of purging. Surging will be accomplished by using either a bailer or a surge block, or by pumping the well sufficiently to cause a drawdown and then allowing the well to recover and repeating the process. Following the final surge and purge cycle, the well will be pumped or bailed until 10 well volumes have been removed or until the well produces sediment free water. If water was added to the augers during drilling to combat heaving sand conditions, the minimum amount of water removed during development will be the volume added during drilling.

Note: if the well can be purged dry during development, it should be developed in a manner which limits agitation by slowly purging the well dry. Wells that can be purged dry may not be surged and no water may be added to the well.

3.3.2 Groundwater Sampling

Four existing monitoring wells and two newly installed monitoring wells will be sampled during the site investigation. Groundwater wells proposed for sample collection during this field effort include: MW16, MW16D, MW16BR, MW21, MW21D, and MW21M.

Groundwater samples will be collected from the monitoring wells using the following procedures:

- Before a well is sampled, the depth to groundwater will be established by manual means with a water level sounder, to an accuracy of 0.01 foot.
- A submersible bladder pump will be used during purging and sampling of the monitoring wells. Wells will be sampled using a low-flow sampling technique and purged at a rate of 100 to 500 milliliters per minute.
- During purging, groundwater will run through a flow-through cell while parameters are analyzed using a multi-parameter, water quality instrument such as a YSI meter. Parameters to be measured and recorded include pH, dissolved oxygen, conductivity, temperature, turbidity, and oxygen-reduction potential.
- The bladder pump will be used for collecting the groundwater samples. When collecting VOCs, the flow rate of the pump will be lowered as close to 100 milliliters per minute as practicable. Personnel collecting the sample will wear disposable nitrile gloves. New, clean nitrile gloves will be donned by the sampler prior to sample collection.
- Disposable, bonded polyethylene tubing will be used with the pump. The disposable bladder will be replaced between each well, and the bladder pump itself will be decontaminated between each well with an Alconox and water solution and a distilled water rinse.
- Groundwater purging and sampling will proceed from the least contaminated to most contaminated well in order to minimize potential cross-contamination. The order will be determined based on previous sampling results
- Should a monitoring well purge "dry" prior to sample collection, the well will be allowed to recover. Once the well has recovered sufficiently, water samples will be collected without additional purging or water quality parameter collection.
- If possible, each well will be purged until the measured turbidity is below 5 nephelometric turbidity units. Well purging will continue until turbidity is measured below 5 nephelometric turbidity units for two consecutive measurements and the indicated parameters meet stabilization criteria. If stabilization parameter criteria are not met within one hour after purging was initiated, the sampler will discontinue purging and samples will be collected at that time.
- All purged water will be collected and containerized in 55-gallon drums.

- Water samples will be collected in pre-labeled, pre-cleaned containers provided by the laboratory. Samples will be collected in order of volatility, from most volatile to least.
- Groundwater purge data and sample collection information will be recorded on designated field forms and/or field notebook.
- Analytical methods, sample container and preservation requirements, and sample holding time requirements are summarized in Table 1 of Section 3.2.

Note: The hold time for nitrate analysis is 48 hours. Overnight sample shipments to the Minneapolis laboratory will take place on each day of groundwater sampling in order to meet holding time.

3.3.3 Investigation-Derived Waste

IDW will consist of soil cuttings from well installation, purge water from well development and groundwater sampling, and disposable, personal protective equipment and sampling supplies (sample tubing, nitrile gloves, etc.). Soil cuttings and purge water will be containerized in 55-gallon drums, properly labeled, and staged onsite, pending characterization. Purge water will be characterized using results from groundwater samples collected during this event. One waste sample will be collected from the soil cuttings generated during well installation and submitted to Pace for BTEX analysis by EPA SW8260 and lead by EPA SW6010.

Additionally, one 55-gallon drum of purge water remains onsite from field activities performed in March 2016 under TO 2012. This waste drum will be disposed of with waste generated from this supplemental investigation. IDW will be transported and disposed of by SGS Environmental Contracting, LLC of Merrill, Wisconsin.

4.0 SITE SAMPLING TECHNICAL MEMORANDUM

Bristol will prepare a Site Sampling Technical Memorandum (tech memo) that will describe monitoring well installation and groundwater sampling activities, deviations from this Work Plan (if applicable) and presenting analytical results. Monitoring well and groundwater sample results will be displayed on an aerial photograph image. The tech memo will also include field forms, notes, well construction diagrams, a photo log, and laboratory reports in the form of appendices.

The draft tech memo will be submitted to the EPA SME for review in PDF format via email within 30 days of receipt of all analytical results from the groundwater sampling effort. The final tech memo will be submitted to the EPA SME in hard copy format within 7 days of receipt of comments on the draft tech memo.

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5.0 SITE-SPECIFIC DATA QUALITY ASSURANCE PROJECT PLAN

Trip blanks will be submitted along with water samples to the laboratory. Trip blanks will be analyzed for VOCs, GRO, and EDB. One trip blank will be included in each cooler containing volatile samples (GRO, VOCs, and EDB). A trip blank sample will consist of three laboratory-prepared volatile organic analysis vials filled with reagent grade water and preservative. Two sets of three vials will be submitted, one for VOCs and EDB analysis and one for GRO analysis.

MS/MSD pairs will be collected at a rate of 5 percent, or one per every 20 or fewer primary samples, for a total of one MS/MSD pair required for this investigation. Field duplicate samples will be collected at a rate of 10 percent or one per every 10 or fewer primary samples, for a total of one field duplicate required for this investigation. Field duplicates and MS/MSD samples will be analyzed for all analytical methods included in the primary field sample suite (Table 1).

Bristol's Region 5 QAPP (Bristol, 2016) outlines the overall quality assurance procedures for collecting, labeling, handling, storing, and transporting samples as well as analyzing the laboratory data.

5.1 DATA QUALITY OBJECTIVES

Bristol has developed site-specific data quality objectives in accordance with EPA's Guidance for the Data Quality Objectives Process (EPA QA/G-4, 2000).

The intent of the site investigation is to characterize the horizontal and vertical extent of soil contamination, monitor groundwater, and evaluate the risk of vapor intrusion to structures on the site.

Petroleum-related contamination, specifically VOCs, have been documented in groundwater at the site. During an investigation conducted by a tribal contractor, petroleum-contaminated groundwater was encountered at 25 feet bgs in one location and at 40 feet bgs adjacent to Haskell Lake.

5.2 SCREENING LEVELS

The groundwater analytical results will be evaluated against the Groundwater Cleanup Standards located in Appendix A of the LDF Tribe's Hazardous Substance Control Code (LDF, 2008), as well as the Wisconsin Enforcement Standards (ES) and Preventative Action Limits found in Wisconsin Administrative Code (WAC) Chapter NR 140, Groundwater Quality (WAC, 2012). The ES represent a concentration above which action must be taken to improve the quality of groundwater. The Preventative Action Limits is a lower concentration above which groundwater quality should be monitored. The ES values are comparable to EPA maximum contaminant levels established by the Safe Drinking Water Act (U.S.C. Title 42, Chapter 6A, Subchapter XII, Part A, Section 300f, et seq., 1974) (EPA, 1974).

5.3 LABORATORY DATA QUALITY

The Pace laboratory of Minneapolis, Minnesota, will analyze the project samples. Pace Minneapolis is certified by the National Environmental Laboratory Accreditation Committee for SW846 methods, and is also certified through the state of Wisconsin. Pace Minneapolis' certifications are presented in Appendix C. If additional laboratories are used in the future, laboratory-specific information will be presented in an appendix to this plan. Appendix E contains the current laboratory method and reporting limits as well as the laboratory control sample (LCS) acceptance ranges for contaminants of concern associated with petroleum product releases.

The MS/MSD and LCS/laboratory control sample duplicate (LCSD) acceptance ranges, MS/MSD and LCS/LCSD relative percent difference limits, and surrogate recovery acceptance ranges for soil, groundwater, and air are presented in Appendix D.

6.0 REFERENCES

Bristol Environmental Remediation Services, LLC (Bristol). (2016). Quality Assurance Project Plan (Revision 0). LUST Sites in Indian Country EPA Region 5.

U.S. Environmental Protection Agency (EPA). (1974). Safe Drinking Water Act. 42 United States Code 6A.

EPA. (2000). Guidance for the Data Quality Objectives Process. EPA QA/G-4. Office of Environmental Information, EPA/600/R-96/055. August.

Lac du Flambeau Tribe. (2008). Tribal Code, Section 2, Chapter 200, Hazardous Substance Control Code. Website: https://www.ldftribe.com/Court%20Ordinances.php

Wisconsin Administrative Code. (2012). NR 140, Groundwater Quality.

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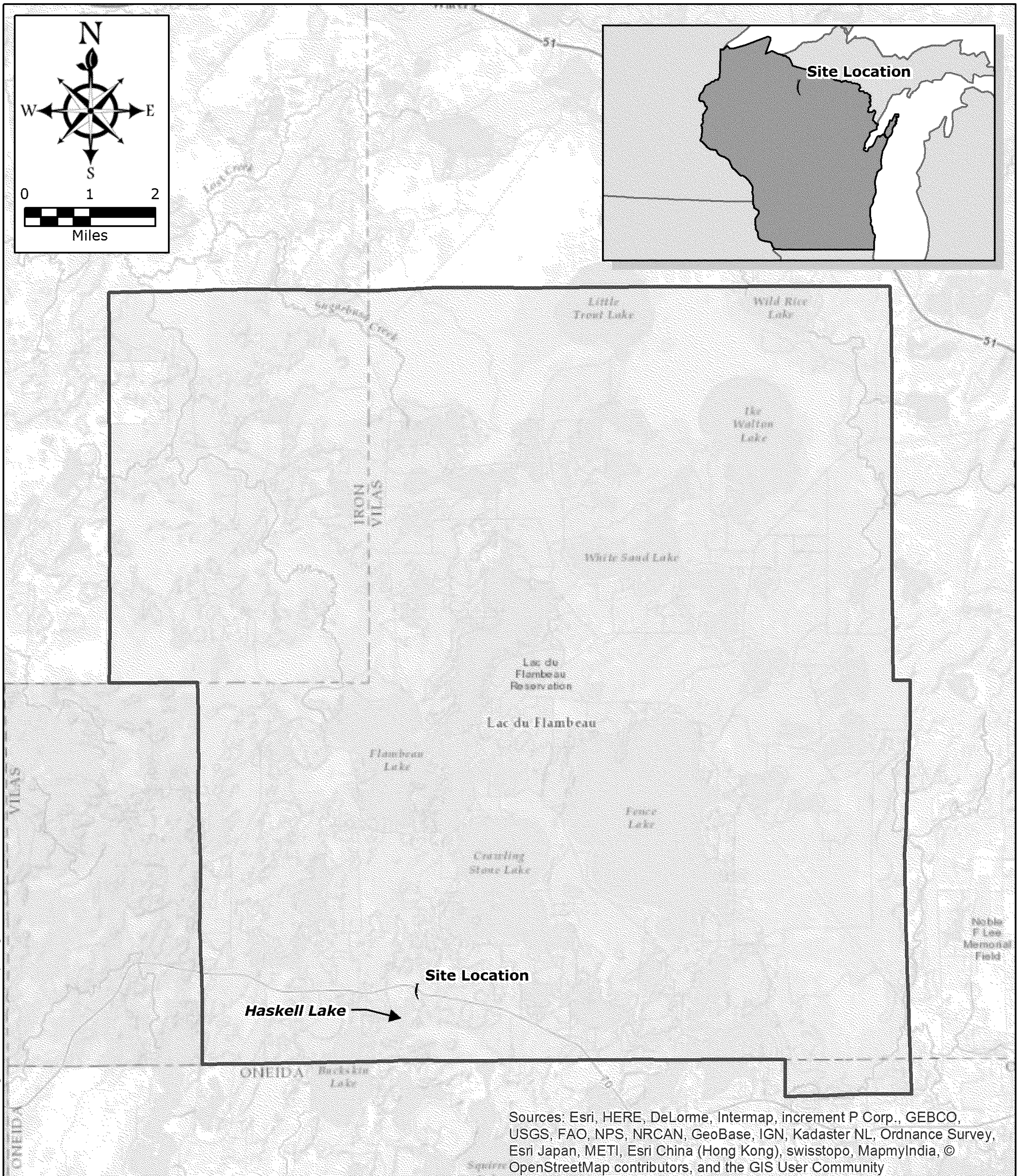
FIGURES



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Legend

(Site Location

Lac du Flambeau Indian Reservation

FIGURE 1
LAC DU FLAMBEAU, WI
EPA TASK ORDER 3012 TOWER STANDARD LUST SITE
LOCATION MAP

Bristol
ENVIRONMENTAL REMEDIATION SERVICES, LLC
Phone (907)563-0013 Fax (907)563-6713

DATUM: NAD83	Date: 7/28/2016	SHEET 1 of 1
PROJECTION: SP WI ZN FT	DWN. NAP	
Project No. 34170026	SCALE 1" = 2 mi	
	APPRVD. MF	

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Legend

Site Location

FIGURE 2
LAC DU FLAMBEAU, WI
EPA TASK ORDER 3012 TOWER STANDARD LUST SITE
SITE MAP

Bristol
ENVIRONMENTAL REMEDIATION SERVICES, LLC
Phone (907)563-0013 Fax (907)563-6713

DATUM: NAD83	Date: 7/28/2016	SHEET 1 of 1
PROJECTION: SP WI ZN FT	DWN. NAP	
Project No. 34170026	SCALE 1" = 200'	
	APPRVD. JSD	

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EPA-R5-2017-010506_0002851

APPENDIX A

Bristol Standard Operating Procedures

BRISTOL ENVIRONMENTAL REMEDIATION SERVICES, LLC

GROUNDWATER SAMPLING

STANDARD OPERATING PROCEDURE BERS-02

Record of Changes

Revision No.	Date	Prepared by	Approved by
1	10/14/09	B. Allen	L. Maserjian
2	02/16/2010	J. Clark	B. Allen/ J. Clark

GROUNDWATER SAMPLING

STANDARD OPERATING PROCEDURE

Summary: Groundwater samples are usually obtained from either temporarily or permanently installed groundwater monitoring wells. In order to obtain a representative groundwater sample, the stagnant water in the well casing and the water immediately adjacent to the well are purged before sample collection. Depending on the needs of the project, purging can be performed either by traditional methods (purging several full well volumes), or by the low stress/low flow method. Once purging is complete, samples are collected using a sampling device that does not affect the integrity or representativeness of the sample.

Health and Safety: Sampling activity should only be conducted in accordance with an approved Site Health and Safety Plan. Electric generators must be grounded to prevent possible electrical shock.

Interferences and Potential Problems: The primary problems associated with groundwater sampling are the collection of non-representative samples, and sample contamination from equipment or the environment. These can be eliminated or minimized through implementation of strict well purging and sample collection and handling procedures, and by the use of qualified personnel.

To safeguard against collecting non-representative stagnant water, the following guidelines and techniques should be adhered to during sampling:

- Monitoring wells should be pumped or bailed prior to sampling. This should be done in a manner that minimizes alterations to the water chemistry.
- The well should be sampled as soon as possible after purging and stabilization of indicator field parameters.
- Analytical parameters typically dictate whether the sample should be collected through the purging device or through separate sampling equipment.
- Portions of water that have been tested with a field meter probe will not be collected for chemical analysis.
- Excessive pre-pumping of the well should be avoided.

Personnel Qualifications: Sampling personnel will be trained and certified as hazardous site workers per Title 29 Code of Federal Regulations, Part 1910.120e [29 CFR 1910.120(e)]. If applicable, additional qualification requirements will be specified by the Bristol Quality Control Manager prior to any on-site sampling activity.

Equipment and Materials: Prior to deployment in the field, the requisite sampling equipment and materials will be identified, secured, and inspected for signs of damage or potential contamination.

- Ideally, purging and sample withdrawal equipment should be completely inert, economical, easily cleaned, reusable, able to operate at remote sites in the absence of power resources, and capable of delivering variable rates for sample collection. Adjustable rate, submersible and peristaltic pumps are preferred. Peristaltic pumps are only effective if groundwater depths are approximately 25 feet below the ground surface or shallower. When sampling for volatile contaminants, a pump that minimizes or eliminates volatilization should be selected. The use of inertial pumps is discouraged because of their tendency to cause greater disturbance during purging and sampling.
- Sampling and purging equipment (e.g., bailers, bladders, pumps, and tubing) should be made from stainless steel, Teflon®, polypropylene, or glass.
- The use of 1/4 or 3/8-inch inner diameter tubing is preferred. Clean, pharmaceutical grade tubing should be used in drawing and sampling groundwater. Water level measuring devices should be capable of measuring to 0.01-foot accuracy.
- In addition to groundwater sampling equipment, sampling support equipment may include water level indicators, depth sounder, water quality meter (such as YSI), keys for well caps, organic vapor screening device (such as photoionization detector [PID]), plastic sheeting, tubing, pre-cleaned sample containers, sample preservatives, decontamination supplies and equipment, safety equipment, logbooks, field forms, camera, chain- of-custody forms and seals, coolers and ice packs, and labeling, packaging, and shipping supplies. Sample containers will be of the type and size specified in the governing Quality Assurance Project Plans (QAPPs).

Field Preparation: Perform the following steps before any purging or sampling activities:

1. Pre-label and ready all the required sample containers.
2. To the extent known, plan to sample wells in order of increasing contamination.
3. Check the well for security damage or evidence of tampering, and record observations.
4. Record location, time of day, and date in field notebook.
5. Remove locking well cap and well casing cap.
6. Screen well headspace with a PID or equivalent, to determine the presence or absence of volatile organic compounds. Record instrument readings in the field logbook or field form.
7. Lower a water-level measuring device into the well until water surface is encountered and the instrument alarms.

8. Measure distance from water surface to reference measuring point on well casing or protective barrier post, and record in the field logbook or on the field form. If there is no reference point, measure from the top of the steel casing, top of PVC riser pipe, from ground surface, or some other position on the wellhead, and note in the field logbook or field form.
9. Measure the total depth of the well and record in the field logbook or field form. Measure well depth either the day before sampling or after all sampling in that well has been completed. Take care to minimize disturbance of the water column.
10. Calculate the volume of water in the well using the following calculations and data reduction:

    Well volume: $V = 0.041d^2h$

    V = volume of one well casing of water in *gallons*

    d = inner diameter of the well casing in *inches*

    h = total height of the water column in *feet*

    Based on this equation, one well volume can be calculated simply by multiplying the height of the water column in feet by the appropriate conversion factor, which is based on the casing diameter as follows:

Diameter	2-inch	3-inch	4-inch	5-inch	6-inch
Volume (gal/ft.):	0.1632	0.3672	0.6528	1.02	1.4688

11. Select the appropriate purging and sampling equipment based on requirements in the site-specific QAPP.

Purging: To ensure that a representative groundwater sample is collected, a well is typically purged prior to sample collection. Well purging is accomplished either by using low-flow procedures or re moving a prescribed volume of water from the well (usually a minimum of three to five well volumes). During both purging methods, water quality parameters should be monitored for stabilization.

Purging may be performed by using bailers or pumping mechanisms. In general, a pump is preferred over a bailer for purging and sampling because it will not stress the well like dropping a bailer into the well. If using a pump, select a low removal rate in order to not stress the well. Tubing should remain filled with water, so as to minimize possible changes in water chemistry upon contact with the atmosphere.

If possible, avoid purging wells to dryness by slowing the purge rate. If the well has a poor recharge rate and is purged dry, sample the well once the water level has recovered sufficiently to collect the appropriate volumes for all required analyses. Record in the field logbook or on the field form that samples were collected, even though water quality parameters did not stabilize or the required volume of water was not removed.

If water quality parameters have not stabilized after 1 hour of purging, options include continued purging until stabilization is achieved, or collecting samples although stabilization has not been achieved. Record all actions taken in the field logbook or field form.

Once the purging requirements have been met, the groundwater sample can be collected. Collect and dispose of purge water and solid investigation-derived waste (IDW) as prescribed in the site-specific QAPP.

These procedures are used for sampling events that require purging prior to sampling. For some projects, sampling may be performed without purging the well first. Refer to the non-purge sampling procedures.

Low-Flow Purging

For low-flow purging and sampling, the Region 1 U.S. EPA Low Flow Guidance Document [*Low Stress (low flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells*, July 30, 1996, Revision 2] will be followed, and is summarized below.

1. After the water level and total well depth have been measured, lower the submersible pump or tubing (Teflon, polyethylene, or other approved material) for peristaltic pump slowly (to minimize disturbance) into the well to the middle of the submerged, screened interval of the well, or appropriate depth based on site-specific conditions. Placing the pump or tubing in this manner will reduce the risk of drawing down the water table to below the pump intake, thus preventing the introduction of air into the sample tubing.

2. Before starting the pump, measure the water level and record it on the Groundwater Low Flow Purging Form.

3. Start the pump at its lowest speed setting and slowly increase the speed until discharge occurs. Check water level. Adjust pump speed until there is little or no water level drawdown (less than 0.3 feet). If the minimal drawdown that can be achieved exceeds 0.3 feet, but remains stable, continue purging until indicator field parameters stabilize (described in Number 5, below).

4. Monitor and record water level and pumping rate every 3 to 5 minutes during purging. If a flow rate meter is present, record the pumping rate every 3 to 5 minutes as well. Record any pumping rate adjustments (both time and flow rate). Pumping rates should, as needed, be reduced to the minimum capabilities of the pump to ensure stabilization of indicator parameters. Adjustments are best made in the first 15 minutes of pumping. The final purge volume must be greater than the stabilized drawdown, plus the extraction tubing volume.

5. Monitor indicator field parameters every 3 to 5 minutes during purging, with a calibrated combination type meter (i.e., YSI, etc.). The following field parameters will be monitored: turbidity, temperature, specific conductance, pH, oxidation-reduction potential (ORP), and dissolved oxygen (DO). All measurements, except

turbidity, must be obtained using a flow-through cell. Transparent flow-through cells are preferred. This allows the field personnel to watch particulate buildup within the cell. If the cell needs to be cleaned during purging, continue pumping and disconnect the cell for cleaning. Then reconnect and continue monitoring.

6. Groundwater samples can be collected after the field parameters stabilize within the following limits:
   - Turbidity: ± 10% for values greater than 1 nephelometric turbidity units (NTUs)
   - DO: ± 10 %. Note: DO may not stabilize unless using a flow-thru cell. If not using a flow-thru cell, disregard this parameter for the purpose of establishing stability
   - Specific conductance: ± 3%
   - Temperature: ± 3%
   - pH: ± 0.1 pH units
   - ORP: ± 10 millivolts

Purging is considered complete and sampling may begin when all of the above indicator field parameters have stabilized. Do not change the flow rate of the pump prior to sampling. Remove the flow through cell prior to collecting the groundwater samples, and collect directly from the pump discharge.

General Well Purging – Removing Specified Volume of Water

During general well purging, a specified minimum volume of water (usually three to five well casing volumes) should be purged prior to sampling. Water temperature, pH, turbidity, DO, ORP, and specific conductance should be periodically measured during purging using a calibrated combination type meter (i.e., YSI, etc.). These parameters should be measured and recorded approximately every three to five minutes, or after each well volume is removed. The sample can be collected after the required volume of water has been purged and the parameters have stabilized within the limits described above in Number 6 of the low-flow purging section.

Purging Methods

Pumping mechanisms – peristaltic pumps, submersible pumps, non-contact gas bladder pumps, and suction pumps, etc.

1. Assemble the pumping unit. For more information on pump assembly and operation, refer to the specific user's manual for the type of pump used.
2. Lower the tubing (peristaltic pump) or pump/tubing assembly (submersible pumps) into the well to the midpoint of the zone to be sampled. If possible, keep the tubing or pump intake at least 2 feet above the bottom of the well, to minimize mobilization

of particulates present in the bottom of the well.

3. Attach a water quality meter to the outlet tubing to monitor water quality parameters.
4. If required, attach a flow meter to the outlet tubing to measure the volume and rate of water purged.
5. Attach the power supply (typically a battery, generator, etc.). Use a ground fault circuit interrupter (GFCI), or ground the generator to avoid electric shock.
6. Start the pump at its lowest speed setting and slowly increase the speed until discharge occurs. Adjust the pump speed until there is little or no water level drawdown (less than 0.3 feet). If the minimal drawdown that can be achieved exceeds 0.3 feet, but remains stable, continue purging until indicator field parameters stabilize.
7. During purging, monitor water quality parameters and water level drawdown.
8. After water parameters have stabilized, disconnect the water quality meter and flow meter, then collect sample.

Bailer Purging

1. Attach the line to the bailer and slowly lower until completely submerged, be careful not to drop the bailer to the water, which would cause turbulence and the possible loss of volatile contaminants.
2. Pull bailer out, while ensuring that the line either falls onto a clean area of the plastic sheeting or that it never touches the ground.
3. Empty the bailer into a pail of known volume (for example, a five-gallon bucket, preferably graduated). Use the volume of the pail to estimate the amount of water removed.
4. During purging, monitor water quality parameters.
5. Remove the required amount of water.
6. If water quality parameters have stabilized, the sample can be collected. If parameters have not stabilized, continue purging until stabilization has been achieved, or collect sample if directed to do so by the project manager.

Sampling: Sampling may be accomplished using pumping mechanisms or bailers. Care must be exercised during the use of bailers because of their tendency to disturb sediment, leading to increased turbidity.

General Procedures

1. If using a pumping mechanism, do not change the flow rate maintained during purging.
2. Remove the water quality and flow rate meters, if used.
3. If using a pumping mechanism, collect non-filtered samples directly from the outlet tubing into the sample bottle. For filtered samples, connect the pump outlet tubing directly to the filter unit. The pump pressure should remain decreased so that the pressure buildup on the filter does not blow out the pump bladder, or displace the filter.
4. For certain projects, sampling may be performed without purging the well first, typically using a bailer. It is preferable to record the water quality parameters (turbidity, DO, specific conductance, temperature, pH, and ORP) before the sample is collected. Non-purge sampling will be performed in accordance with the steps below.
5. If using a bailer, lower the bailer slowly and gently into the well, taking care not shake the casing sides or to splash the bailer into the water. Stop lowering at a point adjacent to the screen. Allow the bailer to fill and then slowly and gently retrieve the bailer from the well, avoiding contact with the casing, so as not to knock flakes of rust or other foreign materials into the bailer. If the bailer comes with a Bottom Emptying Devise (BED), place the BED into the bottom of the bailer. Fill the sample containers from the BED. A specific BED for volatile samples is recommended because it reduces the outflow to a very low laminar rate. This device is typically purchased separately from the bailers.
6. Collect samples in appropriate containers in order of volatility, with the most volatile samples collected first. Containers should be either pre-labeled or labeled immediately after sample collection. For collecting volatile samples using the zero-headspace procedure, follow procedures specified at the end of this section.
7. Fill containers slowly (avoid turbulence).
8. Filter and preserve samples as specified in the site-specific QAPP.
9. If duplicate samples, split samples, or other quality assurance/quality control (QA/QC) samples are required, collect them at the same time as the primary sample.
10. Cap sample containers tightly and place into a sample cooler. Samples must be chilled and maintained at a temperature of 4 degrees Celsius. Do not allow samples to freeze.
11. Replace the well cap.
12. Log all samples in the field notebook or on field forms.
13. Package samples and complete requisite paperwork.
14. Dispose of all liquid and solid IDW in accordance with project planning documents.

Volatile Sampling Using Zero-Headspace Procedure

1. Open the sample vial, set cap in clean place, and fill the vial just to overflowing. Do not rinse the vial or allow excessive overflowing. There should be a meniscus on the top of the filled vial.
2. Check that the cap has not been contaminated and carefully cap the vial. Slide the cap directly over the top and screw down firmly. Do not over tighten because the cap may break.
3. Invert the vial and tap gently. It is imperative that no air is entrapped in the sample vial. If an air bubble appears that is smaller than approximately 1.0 millimeter, the sample is still viable. If the bubble(s) are larger, discard the sample and begin again.
4. Place the vial in a protective foam sleeve, and then place into the cooler.

Quality Control: The following procedures apply:

- Samples will be packaged, handled, and shipped as prescribed in BERS-03 *Sample Management Standard Operating Procedure.*
- Equipment will be operated and used in accordance with the manufacturer's instructions, unless otherwise specified in the site-specific QAPP.
- Equipment examination activities should occur prior to field deployment, and they should be documented. It is especially important to check that the correct number and type of sample bottles are being sent/taken to the field prior to starting the field activities.
- Depending on the needs of the project, if using non-disposable equipment, collect an equipment rinsate blank to evaluate the potential for cross contamination from the purging or sampling equipment. Collect equipment rinsate blanks by pouring analyte-free water over the decontaminated sampling equipment.
- Depending on the needs of the project, a field blank may be required per matrix and for each sampling event to evaluate whether contaminants have been introduced into the samples during the sampling process. Field blank samples will be obtained by pouring laboratory-grade, certified organic-free water (for organics) or deionized water (for metals) into a sampling container at the sampling point.
- One trip blank per cooler is required when submitting samples for volatile organic analysis. Trip blanks for water and soil samples are prepared and sealed by the laboratory. They are transported to the field and returned, unopened, to the laboratory in the same cooler as the samples collected for volatile organic compound (VOC) analysis.
- Blanks will be collected at the frequency and locations specified in the site-specific QAPP. Blanks are analyzed for the same target analytes as the associated field samples. Each blank receives a unique sample number and is submitted blind to the laboratory.

BRISTOL ENVIRONMENTAL
REMEDIATION SERVICES, LLC

SAMPLE MANAGEMENT

STANDARD OPERATING PROCEDURE BERS-03

Record of Changes

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0	01/15/08	B. Allen	S. Ruth
1	2/23/2010	M. Faust	B. Allen

SAMPLE MANAGEMENT

STANDARD OPERATING PROCEDURE

Method Summary: To ensure the quality and integrity of analytical data, samples will be managed in accordance with rigorous sample handling, shipping, and custody protocols at all times. Pertinent protocols will be determined prior to initiation of field sampling activity and will apply to sampling, transport, and analysis activities.

Health and Safety: Sampling activity should only be conducted in accordance with an approved Site Health and Safety Plan.

Interferences and Potential Problems: Improper sample management may result in a number of problems, including, but not limited to:

- Inability to collect samples during the field event due to lack of appropriate sample containers and/or preservatives.
- Contamination and/or loss of samples or sample constituents through improper storage and handling, tampering, or breakage.
- Inability to validate resulting data.
- Development of erroneous conclusions regarding site contamination based on inaccurate data and/or problems correlating data and sample locations at the site.
- Mishandling of residual sample material following analysis.

Personnel Qualifications: Sample management personnel will be trained and certified as hazardous site workers per Title 29 Code of Federal Regulations, Part 1910.120(e) [29 CFR 19 10.120(e)] and trained in applicable DOT sample shipping regulations of 49 CFR Part 172, Subpart H. If applicable, additional qualification requirements will be specified in the site-specific Quality Assurance Project Plan (QAPP) and met by designated personnel.

Equipment and Materials: Equipment selection will be based on the objectives of the sampling program and the analytes of concern. Prior to deployment in the field, the requisite sampling equipment and materials will be identified, secured, and inspected for signs of damage or potential contamination.

Sample Identification and Labeling: Sample identification and labeling protocols will follow the procedures specified in the governing program QAPP.

Each collected sample will be assigned a unique sample identification number. The designated sample number will be included on the sample label and referenced on associated sample tags, field logbooks, chain-of-custody forms, analysis request forms, and all data reports related to the samples.

To prevent misidentification of samples, the field team will affix legible labels to each sample container. The labels will be sufficiently durable, and an indelible pen will be used to record data on the labels, so that sample identification information remains legible even when wet. Markers should never be used for sample labeling, as they can be a source of volatile compounds and potential contamination of the sample. Additional labeling requirements will be presented in the site-specific QAPP.

Information that is generally included on the container label and/or sample tag includes:

- Sample identification number;
- Sample collector's name or initials;
- Date and time of sample collection;
- Chemical/physical preservatives used;
- Type of sample (composite, grab, filtered); and
- Analytical parameters requested

Sample Containers and Coolers: Sample containers will be selected, prepared, cleaned, and controlled in accordance with EPA Office of Solid Waste and Emergency Response (OSWER) Directive #9240.0-05A *Specifications and Guidance for Contaminant-Free Sample Containers* (EPA *540/R-93/05* 1, December 1992), and as specified in the governing program QAPP. In advance of each sampling event, the subcontract laboratory should prepare a complete set of precleaned sample containers.

Prior to field activity, field personnel will implement the following steps:

1. Check all sample containers against the specifications of the site-specific QAPP. Ensure that the sample containers and caps are in good condition and free of obvious contamination, constructed of the appropriate material (i.e., plastic or glass), contain appropriate preservative solutions, and will hold sufficient volume for planned analyses, if specified.
2. Verify that sample identification labels are properly affixed to each container.
3. Verify that an adequate quantity of each type and volume of sample container is available for the anticipated environmental and quality control samples. Verify that extra containers are readily available to field staff as contingency for damaged or potentially contaminated containers, and for collecting samples of opportunity.
4. Ensure that containers and coolers are stored in clean areas to prevent exposure to fuels, solvents, and other potential contaminants.

Sample Collection: Field personnel will collect samples as prescribed in the governing QAPP. Samples should be transferred in the field from the sampling equipment directly into a container that has been specifically prepared for that sample (based on the analytes of concern, preservation requirements, and the type of analysis to be performed).

To minimize the potential for cross-contamination and loss of sample constituents, sample fractions should be collected and containerized in the order of volatilization sensitivity of the analytes of interest. The following sample collection order is recommended:

- Volatile organic compounds (VOCs)
- Purgeable organic carbon
- Purgeable organic halogens
- Total organic halogens
- Total organic carbon
- Extractable organic compounds
- Metals
- Phenols
- Cyanide
- Sulfate and chloride
- Turbidity
- Nitrate and ammonia
- Radionuclides
- Ignitability
- Corrosivity
- Reactivity

As the samples are being collected, or immediately thereafter, the field sampling team will document the date and time of sample collection, pertinent field information (e.g., sampling depth), and the identity of sampling personnel, on each container label. Additional detail on the sampling event may be documented in the site logbook as appropriate.

Sample Custody: BERS will ensure the integrity and security of all samples under their control, using a stringent chain-of-custody protocol. This will be supplemented as needed to meet all work assignment requirements.

During the sampling event, field personnel will prepare a chain-of-custody form documenting each sample collected as follows:

- Sample numbers, date and time of collection, sampling location, name of the person who collected the samples, preservatives used, and the analyses requested.

- Document each sample transfer on the custody sheet. Ensure that this form remains with the samples until they arrive at, and are processed by, the laboratory.
- When samples are relinquished to a commercial carrier for transport to the laboratory, sign the chain-of-custody form under “Relinquished By,” enter the name of the carrier organization under “Received By,” and document the date and time of transfer. Upon receipt of the samples, the laboratory sample custodian will similarly sign and date the chain-of-custody form.

Under no circumstance is there to be a break in custody.

Sample Packaging: Unless otherwise specified in the site-specific QAPP, field personnel will implement the following steps when packaging environmental samples for shipment:

- Tighten all sample lids. Verify that all containers are labeled and intact. Verify that all container labels are secure, legible, and complete.
- Bag samples individually in appropriate-sized plastic bags (e.g., Ziploc®) and seal. Up to 3 VOC vials may be packed together in container bags.
- Secure and tape the drain plug on the cooler with fiber or duct tape.
- Spread inert packing material (rubber foam, air pillows, or “bubble” wrap) in the bottom of the bag inside the cooler and place sample bags on top of the packing material.
- Include a temperature blank (a small container filled with water) to be used by the laboratory to determine the internal temperature of the cooler upon receipt at the laboratory.
- Place ice packs (e.g., blue ice) into cooler. If ice packs are unavailable, place ice into doubled heavy-duty polyethylene bags and seal with tape. Put double-bagged ice on top of, and in between, samples. Fill in remaining space with packing material.
- Place the chain-of-custody record into a plastic sealable bag (e.g., Ziploc), seal the bag, and tape it to the inside of the cooler lid.
- Close the cooler and tape the top of the cooler shut. Affix custody seals to the top and sides of the cooler, such that the cooler cannot be opened without breaking at least one seal.
- Mark the cooler with “This End Up” and arrows to indicate the proper upward position.
- Tape a label containing the name and address of the destination to the outside of the cooler.

Sample Scheduling, Delivery, and Holding Times: In work assignments where analytical services are procured from a subcontractor laboratory, the laboratory will be required to designate a point of contact (POC) for both normal business hours, and for emergency situations during off-hours. In addition, the laboratory will be required to designate a sample custodian, who will be notified by the BERS field sampling supervisor each time samples are shipped.

Unless otherwise approved, samples will be delivered to, and received by, the laboratory within 24 hours of collection.

Sample holding time tracking begins with the collection of samples, and continues until the analysis is complete. The site-specific QAPP will specify holding time requirements for each analyte of interest to the project.

Quality Control: No additional QC procedures apply.

Data Management and Records Management: Sampling records will be generated and maintained as prescribed in this procedure and the governing QA plans. Sampling data will be documented on field data sheets or in the logbooks.

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BRISTOL ENVIRONMENTAL REMEDIATION SERVICES, LLC

EQUIPMENT DECONTAMINATION

STANDARD OPERATING PROCEDURE BERS-05

Record of Changes

Revision No.	Date	Prepared by	Approved by
1	10/14/09	B. Allen	L. Maserjian
2	2/23/10	L. Maserjian	B. Allen

EQUIPMENT DECONTAMINATION

STANDARD OPERATING PROCEDURE

Summary: Disposable tools and equipment should be used when possible. However, where non-disposable items are used, appropriate decontamination will be accomplished according to the type of equipment being used and the type of samples being collected. In general, field equipment will be decontaminated by means of the following steps:

1. Perform non-phosphate detergent and tap water wash, using a brush if necessary.
2. Perform tap-water rinse.

When sampling for trace organic compounds, the following step will be added:

3. Perform deionized/distilled water rinse.

Health and Safety: Field activities should only be conducted in accordance with an approved Site Health and Safety Plan. Decontamination hazards and precautions include the following:

- Hazardous substances may be incompatible with decontamination materials. For example, the decontamination solution may react with contaminants to produce heat, explosion, or toxic products. Also, vapors from decontamination solutions may pose a direct health hazard to workers by inhalation, contact, fire, or explosion. The Site Health and Safety Plan will provide procedures and identify responsibilities to ensure that incompatible materials are identified and segregated from each other.
- The Site Health and Safety Plan will specify the use of personal protective equipment (PPE) that is appropriate for both the contaminants of concern and the decontamination chemicals used. The PPE selection will take into account that decontamination materials may degrade protective clothing or equipment, and that some solvents can permeate protective clothing.
- Solvent rinsing operations will be performed in well-ventilated areas.
- Investigation-derived waste (IDW) generated from decontamination activities will be managed as prescribed in SOP BERS-09: *IDW Management.*
- Material Safety Data Sheets (MSDS) will be kept with all decontamination solvents or solutions as required by the Hazard Communication Standard.
- Phosphate-containing detergents will not be used in jurisdictions where they are banned.

Interferences and Potential Problems: Potential problems related to equipment decontamination can be eliminated by the use of appropriate materials, reagents, and techniques.

- The use of distilled and/or deionized water commonly available from commercial vendors may be acceptable for decontamination of sampling equipment.

- The use of an untreated potable water supply is not an acceptable substitute for tap water. Tap water may be used from any municipal or industrial water treatment system.
- If acids or solvents are utilized in decontamination, they raise health and safety and waste disposal concerns.
- Washing complex and sophisticated sampling equipment with acids or solvents can damage the equipment.
- If not used immediately, cleaned equipment will be stored to prevent recontamination.
- PVC and plastic items will not be rinsed with solvents.

Personnel Qualifications: Field personnel will be trained and certified as hazardous site workers per Title 29 Code of Federal Regulations, Part 1910.120(e) [29 CFR 1910.120(e)]. If applicable, additional qualification requirements will be specified in the site Quality Assurance Project Plan (QAPP).

Equipment Requirements: Prior to deployment in the field, the requisite sampling equipment and materials will be identified, secured, and inspected for signs of damage or potential contamination. Decontamination equipment, materials, and supplies are generally selected based on availability. Other considerations include the ease of decontaminating or disposing of the equipment.

The following standard materials and equipment are recommended for decontamination activities:

- Non-phosphate detergent.
- Tap water.
- Distilled/deionized water
- Pesticide grade solvent
- Long- and short-handled brushes
- Bottle brushes
- Drop cloth/plastic sheeting
- Paper towels
- Plastic or galvanized tubs or buckets
- Pressurized sprayers (H_20)
- Solvent sprayer with Teflon nozzle
- Aluminum foil
- Plastic sheeting
- PPE

- Trash bags
- Trash containers
- 55-gallon drums
- Metal/plastic buckets/containers for storage and disposal of decontamination solutions.

The appropriate materials and equipment will be selected as needed on a site-specific basis.

Planning Considerations: Equipment decontamination activities, including those performed by subcontractors and suppliers, will be planned in advance of field activities and in consultation with program health and safety personnel.

Decontamination: Depending on the nature of the work, field equipment requiring decontamination may include heavy equipment, downhole equipment, sampling equipment, and groundwater pumping equipment.

Heavy Equipment Decontamination: Heavy equipment includes the drilling rig and backhoe. Field personnel will implement the following steps to decontaminate heavy equipment:

1. Set up a decontamination pad that is large enough to fully contain the equipment to be cleaned. Use one or more layers of heavy plastic sheeting to cover the ground surface.
2. Spray areas of the equipment that may have been exposed to contaminated soils using steam or high-pressure sprayer and detergent. Be sure to spray down all surfaces, including the rear area of the undercarriage.
3. Rinse the equipment with potable water.
4. Remove equipment from the decontamination pad and allow to air dry.

Downhole Equipment Decontamination: Downhole equipment includes hollow-stem augers and drill pipes. Well casings and screens will be decontaminated as decribed under "Sampling Equipment". Field personnel will implement the following steps to decontaminate downhole equipment:

1. Set up a centralized decontamination area, if possible. This area should be set up to contain contaminated rinse waters, and to minimize the spread of airborne spray.
2. Set up a "clean" area upwind of the decontamination area to receive cleaned equipment for air drying. At minimum, clean plastic sheeting must be used to cover the ground, tables, or other surfaces where decontaminated equipment is to be placed.
3. Wearing the required PPE, use a high-pressure sprayer or steam unit and detergent to clean the contaminated equipment. Aim downward to avoid spraying outside the decontamination area. Be sure to spray inside corners and gaps. If necessary, use a brush to dislodge dirt or debris.
4. Rinse the equipment using potable water.

5. Remove the equipment from the decontamination area and place in the clean area to air dry.
6. Cover the equipment to prevent contamination if the equipment is not used immediately.
7. Collect all contaminated waters, plastic sheeting, and disposable gloves, boots, and clothing in the designated containers. Receptacles containing contaminated items must be properly labeled for disposal. Containerize liquids and solids separately.

Sampling Equipment Decontamination: Sampling equipment includes split spoon samplers, spatulas, compositing bowls, and other utensils that come into direct contact with samples.

Field personnel will collect disposable sampling equipment in the designated containers and dispose of them as prescribed in the Site Health and Safety Plan and SOP BERS-09: *IDW Management.* Field personnel will implement the following steps to decontaminate non-disposable equipment:

1. Set up a decontamination line on plastic sheeting. The decontamination line should progress from dirty to clean, and end with an area for drying decontaminated equipment. At minimum, use clean, plastic sheeting to cover the ground, tables, or other surfaces on which decontaminated equipment will be placed. Set up a containment system for collecting wash/rinse waste.
2. Wash the item thoroughly in a bucket of soapy water. Use a stiff-bristle brush to dislodge dirt or debris. Before washing, disassemble items that might trap contaminants internally. Do not re-assemble until decontamination is complete.
3. Rinse the item in potable water. Rinse water should be replaced as needed, generally when cloudy.
4. Allow to air dry.
5. Collect all contaminated waters, plastic sheeting, and disposable gloves, boots, and clothing in the designated containers. Receptacles containing contaminated items must be properly labeled for disposal. Liquids and solids must be drummed separately.

Groundwater Sampling Pumping Equipment Decontamination: Field personnel will implement the following steps to decontaminate sampling pumps:

1. Set up a decontamination area and a separate clean storage area using plastic sheeting to cover the ground, tables, and other porous surfaces where decontaminated equipment will be placed. Set up three clean containers of the appropriate size and shape for immersing the pump assembly. Fill the first container with dilute, non-foaming soapy water, and the second with potable water. Use the third container for waste discharge.
2. If decontaminating an electric submersible pump (e.g., Grundfos® Redi-Flo), remove the bottom screw plug to flush the cooling water. Replace this water with deionized water after the decontamination process is complete.

3. Set up the pump assembly in the same configuration as used for sampling. Submerge pump intake and all downhole wetted parts (tubing, piping, and foot valve) in the soapy water container. Place the discharge outlet in the waste container above the level of wastewater. Pump soapy water through the pump assembly until it discharges to the waste container.
4. Move the pump assembly to the rinse water container while leaving discharge outlet in the waste container. Ensure that all downhole wetted parts are immersed in the potable water rinse. Pump potable water through the pump assembly until it runs clear.
5. Pump a sufficient amount of analyte-free water through the hose to flush out the tap water, then purge with the pump in reverse mode. Rinse the outside of the pump using analyte-free water. Decontaminate the discharge outlet by hand following the steps for decontamination of sampling equipment.
6. Remove the decontaminated pump assembly to the clean area and allow to air-dry.
7. Cover intake and outtake orifices with aluminum foil to prevent the entry of airborne contaminants or particles.
8. Place pump in clean plastic bag.

Quality Control: The following procedures apply:

- Equipment will be operated and used in accordance with the manufacturer’s instructions, unless otherwise specified in the site-specific work plan or its equivalent.
- Equipment examination activities should occur prior to field deployment, and should be documented.
- After decontamination activities, the field personnel should make a record of the equipment type, date, time, and method of decontamination in the field logbook.
- If sampling equipment requires the use of plastic tubing, dispose of it as contaminated. Replace with clean tubing before conducting additional sampling.

Calculations and Data Reduction: Does not apply.

Data Management and Records Management: Generate and maintain decontamination records as prescribed in the governing QAPPs.

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BRISTOL ENVIRONMENTAL REMEDIATION SERVICES, LLC

MONITORING WELL INSTALLATION

STANDARD OPERATING PROCEDURE BERS-07

Record of Changes

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0	01/15/09	B. Allen	L. Maserjian
1	01/04/10	L. Maserjian	B. Allen
2	3/21/2013	L. Nelson	B. Allen

MONITORING WELL INSTALLATION

STANDARD OPERATING PROCEDURE

Summary: A borehole is drilled into the ground at the pre-designated location and to the pre-defined depth. Depending on the hydrogeologic conditions of the site and the project objectives, a variety of drilling methods can be used. The most common of these include hollow-stem augering, direct-push drilling, mud rotary drilling, and air rotary drilling.

Well drilling and construction activities will follow all applicable state and local regulations and standards. In the event that a monitoring well is abandoned, all applicable state regulations will be followed. In general, the borehole is sealed, the well casing and screen are removed, and the borehole is cleaned and backfilled. Monitoring wells will be constructed by a driller holding a valid well-driller license, issued by the state where the work is performed.

Health and Safety: Field activities should only be conducted in accordance with an approved Site Health and Safety Plan.

Drilling rigs and equipment present a variety of safety hazards. Field personnel working around drilling rigs should know the position of the emergency “kill” switch. Wires, lines, and ropes should be inspected, and frayed or damaged sections discarded. Swivels and blocks should turn freely. Gages should be operational and controls clearly marked. Underground utilities should be clearly marked, and drillers should be aware of any overhead hazards, such as power lines. Drilling should be avoided in these areas. Ear protection should be worn when working around drilling equipment for extended periods of time, particularly air rotary equipment.

Personnel Qualifications: Field personnel will be trained and certified as hazardous site workers per Title 29 Code of Federal Regulations, Part 1910.120(e) [29 CFR 1910.120(e)]. If applicable, additional qualification requirements will be specified in the site Quality Assurance Project Plan (QAPP), and will be met.

Equipment and Materials: Prior to deployment in the field, the requisite sampling equipment and materials will be identified, secured, and inspected for signs of damage or potential contamination.

The following equipment is necessary for the project’s on-site geologist/hydrogeologist:

- Depth sounder or measuring tape
- Water level indicator
- All required health and safety gear
- Description aids (e.g., Unified Soil Classification System [USCS] classification chart, Munsell color chart, grain size charts, etc.)

- Field logbook
- Photoionization detector (PID).

Equipment and tools to install the well are normally provided by the drilling contractor and include the following:

- Drilling equipment appropriate to the site conditions, drilling depth, and other project requirements.
- Threaded flush-jointed riser pipe of an approved material (e.g., Schedule 40 polyvinyl chloride [PVC], 2-inch diameter).
- Threaded flush-jointed slotted screen, made of an approved material (e.g., Schedule 40 PVC, 2-inch diameter) to meet design criteria.
- Well centralizers.
- Properly sized and washed filter pack material (silica sand).
- Bentonite pellets or chips.
- Powdered bentonite.
- Portland cement (American Society for Testing and Materials [ASTM] Types I or II).
- Steel-protective casing with locking cap.
- Tremie pump/box and pipe.

Planning: Drilling and well installation programs must be planned and supervised by an environmental professional. The following steps will be used to plan well installation activities:

- Review existing data on site geology and hydrogeology, including publications, air photographs, water quality data, and existing maps.
- Conduct an on-site assessment to determine potential access problems for drill rig. Locate water supply sources, establish equipment storage area, and observe outcrops.
- Perform utilities check. N ote location of underground utilities and overhead electrical wires.
- Select drilling, sampling, and well development methods.
- Determine well construction specifications (e.g., casing and screen materials, casing and screen diameter, screen length and screen interval, filter pack, and screen slot size).
- Determine disposition requirements for drill cuttings and fluids.
- Prepare the work plan, site QAPP, and Site Health and Safety Plan.
- Prepare and execute the drilling subcontract.

Well Construction Materials

All well construction casing and downhole equipment will be thoroughly cleaned prior to downhole use.

Casing Material – The well casing material should not interact with the groundwater. Well casings for environmental projects are usually constructed of PVC or stainless steel. Carbon steel or other appropriate material can also be used, if approved by the regulatory agency. Casing sections can be joined using welded or threaded joints. If using PVC casing, Schedule 40 should be used for shallow wells, and Schedule 80 may be required for deeper wells (greater than 60 feet).

Borehole Diameter – When installing a standard well using hollow-stem auger, the borehole diameter will be a minimum of 4 inches larger than the casing diameter, to allow for emplacement of sand and sealant. When installing a prepacked well, or when using the direct-push drilling method, the borehole diameter may not be 4 inches larger than the casing diameter.

Casing Diameter – 2-inch diameter casing is recommended for most monitoring wells. Larger diameter casing may be required for some applications, and when using the direct-push drilling method, it may be necessary to use smaller diameter casing.

Well Screen – The most common well screen length is 10 feet, though other lengths can be used as required by site-specific conditions, and as allowed by regulatory agencies. The well screen will consist of continuous-slot, machine slotted, or other manufactured PVC or stainless steel well screen. The screen must be installed across the water table. The screen will be installed at a depth that will prevent the water table from ever being above the top of the screen or below the bottom of the screen, taking into account seasonal water table fluctuation. A slot size of 0.010 inches is generally adequate for most installations.

Bottom Cap – A threaded bottom cap will be used.

Filter Pack – The filter pack material will consist of clean silica sand, and be properly sized to prevent fine particles in the formation from entering the well. Clean, medium-to-coarse silica sand is generally adequate as filter pack material for a 0.010-inch slotted well screen. The filter pack will extend at least 2 feet above the top of the screen, unless the water table is shallow enough to prevent optimal well completion.

Bentonite Seal – A bentonite seal will be placed above the filter pack. The bentonite seal will be composed of bentonite chips or pellets (3/8-inch in size or smaller). The bentonite seal will be at least 2 feet in thickness, unless the water table is shallow enough to prevent optimal well completion.

Annular Space Above Bentonite Seal – The annular space above the bentonite seal will be composed of any of the following:

- Bentonite-cement grout (5 pounds of powdered bentonite to 94 pounds of Portland cement, with 6.6 to 8.5 gallons of clean water);
- Neat cement grout (94 pounds of Portland cement, with 5 to 6 gallons of clean water); or,
- Bentonite grout (20 percent solids, created by mixing 50 pounds of bentonite grout with 24 gallons of clan water).

Monument Boxes – For abovegrade monument boxes, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) will be poured around the shroud and wellhead. The concrete and surrounding soil will be sloped to direct rainfall and runoff away from the wellhead. Bollards (steel posts) are recommended around the monument box to protect the wellhead from vehicle damage. For below-grade monitoring wells, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) will be poured around the monument box. The concrete and surrounding soil will be sloped to direct rainfall and runoff away from the well vault.

Well Construction Methods

Overburden (Unconsolidated) Wells: Any of the drilling methods discussed in this SOP can be used to drill or set a well in the unconsolidated material (overburden). The hollow stem or direct-push method are the preferred choices for shallow (<100 feet) overburden wells.

Field personnel will take the following precautions when constructing overburden wells:

1. The project engineer/geologist will determine the screen slot size based on sand pack size. The length of screen used will be site dependent.
2. Under no circumstances should the sand pack extend into more than one aquifer. In most cases, the well design can be modified to allow for a sufficient sand pack without threat of crossflow between producing zones through the sand pack.

Field personnel will implement the following steps when constructing overburden wells:

1. Advance the borehole to the required depth using the selected drilling method. The hole should be drilled approximately one foot deeper than required for the combined length of casing and screen. The final completion depth should be sounded with a decontaminated, weighted tape before continuance of well placement.
2. Withdraw the drill rods if using the rotary or direct-push method. Check the hole depth with a weighted surveyor's tape.
3. Prepare the casing and screen for installation. Attach a threaded cap to base of well screen. Decontaminate the casing and screen using a steam pressure water sprayer before assembly, if not previously done. Tighten joints to manufacturer's specifications.
4. Place at least one foot of filter pack on the bottom of the boring to provide a firm footing for the well.

5. When the casing string is set to the desired depth, hang the centered casing in place. For deeper wells (greater than 60 feet), centralizers may be used near the top and bottom of the well screen.
6. There should be 2 to 3 feet of stickup above the ground surface once the well has been lowered to its final position, unless the wellhead is flush mounted because of its location. Place the well screen across the water table. When constructing a well in a confined aquifer, the top of the well screen is generally positioned just above the interface of the saturated zone and the overlying confining layer.
7. Place a filter pack of clean, silica sand between the well screen and the side of the boring by slowly pouring the sand between the well casing and the boring annulus (gravity feed). Check the elevation of the sand pack periodically by sounding with a weighted tape measure. The filter pack should extend at least 2 feet above the top of the screen to prevent bentonite from penetrating into the screened section and altering groundwater geochemistry. The filter pack may extend less than 2 feet above the top of the screen, if groundwater is shallow enough to prevent optimal well completion.
8. The auger flights/drill casing should be withdrawn slowly, so that the filter pack is placed evenly around the screen without bridging.
9. Allow the filter pack to settle. Check the depth to the top of the filter pack with a weighted tape.
10. In materials that will not maintain an open hole using hollow-stem augers, the temporary or outer casing will be withdrawn gradually during placement of sand pack/grout. For example, after filling 2 feet with sand pack, the outer casing should be withdrawn 2 feet. This step of placing more sand and withdrawing the outer casing should be repeated until the level of the sand pack is approximately 3 feet above the top of the well screen. This ensures that there is no locking of the permanent (inner) casing in the outer casing.
11. Place a bentonite seal of a minimum of 2-foot vertical thickness in the annular space above the sand pack to separate the sand pack from the cement surface seal. Using a tremie pipe, or using gravity feed for shallow wells (<35 feet), place bentonite pellets or chips (not powder) onto the top of the filter pack. Bentonite pellets can be used if the seal is to be seated below the water table. Slurried bentonite may be used if an unusually high water level exists in the well and precludes the use of bentonite pellets. If a tremie pipe is used, slowly withdraw the pipe as the bentonite is added, to ensure even placement of the bentonite seal around the annulus. Check the depth with a weighted tape.
12. If the bentonite seal is installed above the water table, hydrate according to the manufacturer's specifications. Allow adequate hydration time before dismantling.
13. If a slurry of bentonite is used as an annular seal, it is prepared by mixing powdered or granular bentonite with potable water. The slurry must be of sufficiently high specific gravity and viscosity to prevent its displacement by the grout to be emplaced above it. As a precaution (regardless of depth), and depending on fluid viscosity, a few handfuls of bentonite pellets may be added to solidify the bentonite slurry surface.

14. To prevent pellets from entering the well casing, a cap will be placed over the top of the well casing before pouring the bentonite pellets.
15. Place cement and/or bentonite grout from the top of the bentonite seal to the ground surface.
16. Fill the annulus with grout from the top of the annular seal until undiluted grout flow from the annulus at the ground surface. Grout may be placed by pouring or by pumping the grout through a tremie pipe (normally a 1.25-inch PVC or steel pipe).
17. If the well is completed above ground, a protective casing will be installed. The protective casing will be constructed of metal, and will be at least 5 feet in length. The protective casing will extend approximately 1.5 to 3 feet above the ground surface, and will be set in concrete or cement grout. The protective casing diameter should be 4 inches greater in diameter than the well casing. A 0.5-inch drain hole may be installed near ground level. A flush-mount protective casing may be used in areas of high traffic, or where access to other areas would be limited by a well stick-up.
18. Install a protective steel cap, and secure it to the protective casing by a padlock.
19. Steel bollards should be installed around the protective casing in areas where vehicle traffic may be a problem. Posts should have a minimum diameter of 3 inches, with a minimum height of 4 feet.
20. Label and date monitoring wells with paint, engraving, or steel tags.

Bedrock Wells: Bedrock wells will be drilled using the air or mud rotary method and completed as an open-hole, providing that borehole cave-in is not a possibility. Crystalline rock wells are usually drilled most efficiently with the air rotary method, while consolidated sedimentary formations are drilled using either the air rotary or mud rotary method.

Well Development: Well development is the process by which the aquifer's hydraulic conductivity is restored by removing drilling fluids and fine-grained formation material from newly installed wells. The monitoring well should be developed so that formation water flows freely through the screen and is not turbid, and all sediment and drilling disturbances are removed from the well.

The most common method of well development is surging and bailing. A well is considered developed when the pH and conductivity of the groundwater stabilizes, and the measured turbidity is less than 50 nephelometric turbidity units (NTUs).

Field personnel will implement the following steps to develop the well:

- Measure the total depth (TD) of the well and depth to water (DTW).
- Using an appropriately-sized surge block, surge 5-foot sections of well screen, using 10-20 up/down cycles per section. Periodically remove the surge block and bail accumulated sediment from the well, as required. Ensure that the surge block and bailer are properly decontaminated before use.

- Water quality parameters will be measured periodically during well development. When turbidity is less than 50 NTU and pH and conductivity have stabilized, development is complete.
- For some wells, it may not be possible to achieve turbidity of less than 50 NTU, even when pH and conductivity have stabilized. In these instances, field personnel should note the final turbidity on the Well Development Form.

If used for collection of water quality parameters, the pump selected must be rated to achieve the desired yield at a given depth. The pump system should include the following:

- A check valve to prevent water from running back into the well when the pump is shut off.
- Flexible discharge hose.
- Safety cable or rope to remove the pump from the well.
- Flow meter monitoring system (measuring bucket or inline flow meter).

The amount of water removed during development will be recorded on the Well Development Form. The pump rate and water quality parameters (pH, conductivity, and turbidity) will also be recorded every 5 to 10 minutes.

Well Abandonment: When a decision is made to abandon a monitoring well, the borehole should be sealed in such a manner that the well cannot act as a conduit for migration of contaminants from the ground surface to the water table or between aquifers.

To properly abandon a well, the preferred method is to completely remove the well casing and screen from the borehole, clean out the borehole, and backfill with a cement or bentonite grout, neat cement, or concrete. The grout should be pumped from the bottom of the borehole to the ground surface using a tremmie pipe. If the casing cannot be removed, bentonite-cement grout, neat cement grout, or bentonite grout must be emplaced in the well using a tremie pipe from the bottom of the well to the ground surface.

In order to comply with state well abandonment requirements, the appropriate state agency should be notified (if applicable) of monitoring well abandonment. However, some state requirements are not explicit, so a technically sound well abandonment method should be designed based on the site geology, well casing materials, and general condition of the well(s).

Data Management and Records Management: Well construction, development, and abandonment records will be generated and maintained as prescribed in the governing QAPPs. Well installation data will be documented on field data sheets or in the logbooks.

Interferences and Potential Problems: The main source of problems in well installation is a flawed design, usually resulting in the use of drilling or installation procedures that are not appropriate or optimal for the site conditions. The design and installation of permanent monitoring wells involve drilling into various types of geologic formations that exhibit varying subsurface conditions. Designing and installing permanent monitoring wells in these geologic environments may require several different drilling methods and installation procedures.

The selection of drilling methods and installation procedures should be based on field data collected during a hydrogeologic site investigation and/or a search of existing data. Each permanent monitoring well should be designed and installed to function properly throughout the duration of the monitoring program. When designing monitoring wells, the following should be considered:

- short-and long-term objectives
- purpose(s) of the well(s)
- probable duration of the monitoring program
- contaminants likely to be monitored
- types of well construction materials to be used
- surface and subsurface geological/hydrogeological conditions (e.g., presence of heaving sand or artesian conditions)
- properties of the aquifer(s) to be monitored
- well screen placement
- general site conditions
- potential site health and safety hazards.

The advantages and disadvantages of each drilling method are evaluated based on these considerations. Advantages and disadvantages of the various drilling methods are summarized below.

Direct-Push Drilling

The advantages of direct-push drilling are:

- Zero cuttings (except from Macro-Core sampling)
- Fast in shallow situations
- Sampling cores (Macro-Cores) 4 to 5 feet long
- Can be used to install temporary or permanent wells
- Small rig can access tight areas; easy to transport to remote locations.

The disadvantages of direct-push drilling are:

- Small rigs have limited depth
- Can only install wells up to 2 inches in diameter.

Auger Drilling

The advantages of auger drilling are:

- Relatively fast and inexpensive
- Because augers act as temporary casings, drilling fluids are not used, resulting in reduced well development.

The disadvantages of auger drilling are:

- Very slow or impossible to use in coarse materials, such as cobble or boulders
- Cannot be used in some consolidated formations, and is generally limited to depths of approximately 100 feet.

Mud Rotary Drilling

The advantages of mud rotary drilling are:

- Fast, more than 100 feet of borehole advancement per day is common
- Provides an open borehole, necessary for some types of geophysical logging and other tests
- Can drill through consolidated bedrock.

The disadvantages of mud rotary drilling are:

- Potential for cross-contamination of water-bearing zones
- Drill cuttings may be mixed and not accurately represent lithologies at a given drilling depth
- Drilling mud may alter the groundwater chemistry
- Water levels can only be determined by constructing wells
- Drilling mud may change local permeability of the formation, and may not be entirely removed during well development
- Disposal of large volumes of drilling fluid and cuttings may be necessary if they are contaminated.

Air Rotary Drilling

The advantages of air rotary drilling are:

- Fast, more than 100 feet of borehole advancement a day is possible
- Preliminary estimates of well yields and water levels are often possible
- No drilling fluid to plug the borehole
- Can drill through consolidated bedrock

The disadvantages of air rotary drilling are:

- Generally cannot be used in unconsolidated formations.
- In contaminated zones, the use of high-pressure air may pose a significant hazard to the drill crew because of transport of contaminated material up the hole.
- Introduction of air to the groundwater could reduce concentration of volatile organic compounds (VOCs).

Sonic Drilling

The advantages of sonic drilling are:

- One of the fastest drilling methods available
- Minimizes generation of waste (soil cuttings)
- Can drill through some types of bedrock
- Allows for continuous core sampling

The disadvantages of sonic drilling are:

- More expensive than most drilling methods
- Occasionally requires use of water or other drilling fluid
- In some consolidated formations, may generate heat which could volatize VOCs prior to sample collection.

BRISTOL ENVIRONMENTAL REMEDIATION SERVICES, LLC

WATER LEVEL MEASUREMENT

STANDARD OPERATING PROCEDURE BERS-08

Record of Changes

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0	01/15/08	B. Allen	S. Ruth
1	2/23/10	M. Faust	B. Allen

WATER LEVEL MEASUREMENT

STANDARD OPERATING PROCEDURE

Purpose and Scope: The purpose of this document is to provide sufficient and appropriate instructions for the determination of the depth-to-water and floating chemical product (i.e., gasoline, kerosene) in an open borehole, cased borehole, monitoring well, or piezometer.

Summary: Prior to measurement, water levels in piezometers and monitoring wells are allowed to stabilize for a minimum of 24 hours after well construction and development. A survey mark is placed on the casing for use as a reference point for measurement. The distance from water surface to reference point on well casing is measured at least twice and recorded.

Health and Safety: Field activities should only be conducted in accordance with an approved Site Health and Safety Plan.

Interferences and Potential Problems: Generally, water level measurements taken in boreholes, piezometers, or monitoring wells are used to construct water table or potentiometric surface maps, and to determine flow direction, as well as many other aquifer characteristics. Situations that may impact the accuracy of water level measurements include:

- The magnitude of the observed changes between wells appears too large;
- Atmospheric pressure changes;
- Aquifers that are tidally influenced;
- Aquifers affected by river stage, impoundments, and/or unlined ditches;
- Aquifers stressed by intermittent pumping of production wells;
- Aquifers being actively recharged due to precipitation event;
- Occurrence of pumping; and
- During storm events over a shallow aquifer where recharge is rapid.

Additional sources of error may include the following:

- The chalk used on steel tape may contaminate the well.
- Cascading water may obscure the water mark, or cause it to be inaccurate.
- Many types of electric sounders use metal indicators at 5-foot intervals around a conducting wire. To ensure accuracy, these intervals should be checked with a survey tape (preferably with units divided in hundredths of a foot).

- If there is product or oil present on the water, it can insulate the contacts of the probe on an electric sounder, or give false readings due to thickness of the oil. If this situation is suspected, it is recommended that interface probes be used to determine the thickness and density of the oil layer in order to determine the correct water level.
- Turbulence in the well and/or cascading water can make water level determination difficult with either an electric sounder or steel tape.

Personnel Qualifications: Field personnel will be trained and certified as hazardous site workers per Title 29 Code of Federal Regulations, Part 1910.120(e) [29 CFR 1910.120(e)]. If applicable, additional qualification requirements will be specified in the site-specific Quality Assurance Project Plan (QAPP) and will be met.

Equipment and Materials: Prior to deployment in the field, the requisite sampling equipment and materials will be identified, secured, and inspected for signs of damage or potential contamination.

There are a number of devices that can be used to measure water levels. The device must be capable of attaining an accuracy of 0.02 feet, and calibrated on a regular basis.

Field equipment for performing water level measurements include:

- Air monitoring equipment (e.g., photoionization detector [PID] or flame ionization detector [FID])
- Well depth measurement device
- Electronic water level indicator
- Metal tape measure
- Chalk
- Ruler
- Watch
- Logbook
- Paper towels
- Groundwater water level data forms
- pH meter (optional)
- Specific conductivity meter (optional)
- Thermometer (optional).

Site Preparation: The following steps will be followed before measurement activities are performed:

- Determine the extent of the sampling effort, the sampling methods to be employed, and the types and amounts of equipment and supplies needed.
- Obtain necessary sampling and monitoring equipment.
- Decontaminate or pre-clean equipment, and ensure that it is in working order.
- Perform a general site survey prior to site entry in accordance with the Site-Specific Health and Safety Plan.
- Identify and mark all sampling locations.

Water Level Measurement: A survey mark should be placed on the north side of the casing for use as a reference point for measurement. Generally, the reference point is marked on the top of the well casing, and is established at the time the well is surveyed. The measuring point should be documented in the site logbook and on a groundwater level data form. Every attempt should be made to notify future field personnel of such reference points in order to ensure comparable data and measurements.

Prior to measurement, water levels in piezometers and monitoring wells should be allowed to stabilize for a minimum of 24 hours after well construction/development. In low-yield situations, recovery may take longer. Measurements should be made to the closest 0.01 feet.

The following procedures will be followed to determine groundwater elevation:

1. Make sure that water level measuring equipment is in good operating condition.
2. To the extent known, measure wells in order of increasing contamination.
3. Clean all equipment entering the well.
4. Remove locking well cap, note well ID, time of day, elevation (top of casing) and date in site logbook or an appropriate groundwater level data form.
5. Remove well casing cap.
6. If required by site-specific conditions, monitor headspace of well with a PID or FID to determine presence of volatile organic compounds, and record in site logbook.
7. Lower electric water level measuring device or equivalent into the well until water surface is encountered.
8. Measure the distance from the water surface to the reference measuring point on the well casing or protective barrier post, and record in the site logbook. In addition, note that the water level measurement was from the top of the steel casing, the top of the PVC riser pipe, the ground surface, or some other position on the wellhead.
9. Groundwater level data should be documented as follows:
    - Logger Name – Person taking field notes;
    - Site Name;

- Date the water levels are measured;
- Location – Monitor well number and physical location;
- Time (24-hour clock) at which the water level measurement was recorded;
- Depth to Water – Water level measurement in feet, tenths, or hundredths of feet, depending on the equipment used. Two measurements are required to ensure accuracy;
- Comments – Any information the field personnel deems applicable may be included here;
- Measuring Point – Marked measuring point on PVC riser pipe, protective steel casing, or concrete pad surrounding well casing, from which all water level measurements for individual wells should be measured. This provides consistency in future water level measurements.

10. Measure total depth of well (at least twice to confirm measurement) and record in field logbook or on groundwater level data form.
11. Remove all downhole equipment; replace well casing cap and locking steel caps.
12. Rinse all downhole equipment and store for transport to next well.
13. Decontaminate all equipment.
14. Note any physical changes, such as erosion or cracks in protective concrete pad or variation in total depth of well, in field logbook and on groundwater level data form.

Quality Control: The following procedures apply:

- Equipment will be operated and used in accordance with the manufacturer's instructions, unless otherwise specified in the site-specific work plan or its equivalent.
- Equipment examination activities should occur prior to field deployment, and they should be documented.
- Each well should be tested at least twice in order to compare results.

Calculations and Data Reduction: Calculations and data reduction will be performed using the following equations and rules:

Groundwater elevation above mean sea level: $E_w = E - D$

where:

E_w = Elevation of water above mean sea level or local datum (feet or meters)

E = Elevation above sea level or local datum at point of measurement (feet or meters)

D = Depth to water (feet or meters)

BRISTOL ENVIRONMENTAL REMEDIATION SERVICES, LLC

INVESTIGATION-DERIVED WASTE (IDW) MANAGEMENT

STANDARD OPERATING PROCEDURE BERS-09

Record of Changes

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0	01/15/09	B. Allen	L. Maserjian
1	02/23/10	L. Maserjian	B. Allen

IDW MANAGEMENT

STANDARD OPERATING PROCEDURE

Summary: Investigation-derived waste (IDW) includes any material discarded after use during a field investigation at a hazardous waste site, and it includes personal protective equipment (PPE), disposable equipment, such as sampling equipment, drilling mud, soil cuttings, purge, or well-development water. IDW is classified as either hazardous or nonhazardous, depending on the properties of the waste. Whenever feasible, all IDW will be disposed of on site at active facilities.

If IDW is suspected to be hazardous, the material will be tested for proper classification. If the test determines the material to indeed be hazardous, it will be stored on site no longer than 90 days and then disposed of at a permitted treatment or disposal facility. Alternatively, it will be placed in the facility's waste treatment system, if appropriate. Whenever possible, nonhazardous IDW will be disposed of in the facility's Dumpster, waste treatment system, or on the ground in or near the source area, as appropriate. If on-site disposal is not feasible, nonhazardous IDW will be disposed of in a Dumpster or landfill.

Health and Safety: Field activities should only be conducted in accordance with an approved Site Health and Safety Plan.

Interferences and Potential Problems: Care should be taken to ensure segregation of hazardous IDW from nonhazardous materials. The volume of spent solvent generated from field equipment decontamination procedures should be kept to a minimum, by applying only the minimum amount of solvent necessary and capturing it separately from the wash water. All hazardous waste will be containerized. Project planning will address procedures and responsibilities for the proper handling and disposal of project IDW.

Personnel Qualifications: Field personnel will be trained and certified as hazardous site workers per Title 29 Code of Federal Regulations, Part 1910.120(e) [29 CFR 19 10.120(e)]. If applicable, additional qualification requirements will be specified in the site Quality Assurance Project Plan (QAPP) and will be met.

Equipment and Materials: Prior to deployment in the field, the materials necessary for the management of IDW wastes in the field, such as 55-gallon drums and 5-gallon buckets, will be identified and secured.

Types of IDW: Materials which may become IDW include, but are not limited to, the following:

- PPE, including disposable coveralls, gloves, booties, respirator canisters, splash suits, etc.
- Disposable equipment, including plastic ground and equipment covers, aluminum foil, conduit pipe, composite liquid waste samplers, tubing, and broken or unused sample containers, sample container boxes, or tape, etc.
- Soil cuttings from drilling or hand augering activities.
- Drilling mud or water used for water rotary drilling.
- Groundwater obtained through well development or well purging.
- Cleaning fluids, such as spent solvents and wash water.

Management of Hazardous IDW: The site QAPP will specify disposal practices for hazardous or suspected hazardous IDW. If appropriate, these wastes will be disposed of on site by placement into the facility's waste treatment system, or they will be disposed of in the source area from which they originated, if doing so does not endanger human health or the environment. If on-site disposal is not possible, appropriate tests will be performed to characterize the waste for proper disposal. If the wastes are determined to be hazardous, they will be properly contained and labeled, and then stored on site for a maximum of ninety days before they are manifested and shipped to a permitted treatment or disposal facility.

The generation of hazardous IDW will be kept to a minimum. Nonhazardous materials will be segregated from hazardous materials to prevent cross-contamination. The most commonly produced type of IDW will probably be spent solvent from decontamination procedures and purged groundwater. Segregating the solvent from the wash water during equipment decontamination procedures will minimize the volume of spent solvent IDW generated during field activities.

Field personnel will implement the following procedures when managing hazardous IDW from specific practices:

- Disposable PPE – Containerize in 5-gallon bucket with tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for proper off-site disposal.
- Reusable PPE – Decontaminate following procedures described in the SOP BERS-05: *Equipment Decontamination*. Otherwise, follow procedures for disposable PPE.
- Spent Solvents – Containerize in original containers with contents clearly identified. Leave on site with permission of site operator.
- Soil Cuttings – Containerize in 55-gallon drum with a tight-fitting lid. Identify and leave onsite with permission of site operator.
- Groundwater – Containerize in 55-gallon drum with a tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for testing and proper off-site disposal.

- Decontamination Water – Containerize in 55-gallon drum with a tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for testing and proper off-site disposal.
- Disposable Equipment – Containerize in 55-gallon drum or 5-gallon bucket with a tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for testing and proper off-site disposal.

Management of Nonhazardous IDW: The site QAPP will specify disposal practices for nonhazardous IDW. If the waste site is active, permission will be sought from the site operator for on-site disposal of nonhazardous PPE, disposable equipment, and/or paper/cardboard wastes in the facility's Dumpsters. If on-site disposal is not feasible, the materials will be taken to a nearby permitted landfill.

If the facility is active, permission will be sought to place nonhazardous IDW, including drill cuttings, purge or well-development water, decontamination wash water, and drilling mud, etc., in the facility's waste treatment system. When appropriate, nonhazardous drill cuttings will be spread around the borehole, or, if they were removed for a temporary well, they will be placed back into the borehole. Otherwise, cuttings, purge water, and development water will be placed in a pit in or near the source area. Nonhazardous monitoring well purge or development water may also be poured onto the ground downgradient of the monitoring well. Purge water from functioning private potable wells will be discharged directly onto the ground surface. If on-site disposal is not feasible, these items will be placed into a unit with an environmental permit, such as a landfill or sanitary sewer. These types of materials will not be placed in Dumpsters.

Field personnel will implement the following procedures when managing nonhazardous IDW from specific practices:

- Disposable PPE – Place waste in double bag, and place in site Dumpster, with permission of site operator. Otherwise arrange for testing and disposal.
- Reusable PPE – Decontaminate following procedures described in the SOP BERS-05: *Equipment Decontamination.*
- Soil Cuttings – Containerize in 55-gallon drum with a tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for testing and disposal.
- Groundwater – Containerize in 55-gallon drum with a tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for testing and disposal.
- Decontamination Water – Containerize in 55-gallon drum with a tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for testing and disposal.
- Disposable Equipment – Containerize in 55-gallon drum or 5-gallon bucket with tight-fitting lid. Identify and leave on site with permission of site operator. Otherwise, arrange for testing and disposal.

- Trash – Place waste in double bag, and place in site Dumpster with permission of site operator. Otherwise, arrange for proper disposal.

Quality Control: The following procedures apply:

- Proper handling and disposal activities will be planned prior to commencement of field activities. All planning decisions will be documented in the site QAPP.
- IDW will be handled, stored, and disposed of in accordance with the site QAPP and relevant facility plans.

Calculations and Data Reduction: N/A

Data Management and Records Management: Records concerning the management of IDW will be generated and maintained as prescribed in the governing QA plans.

BRISTOL ENVIRONMENTAL REMEDIATION SERVICES, LLC

FIELD DOCUMENTATION

STANDARD OPERATING PROCEDURE BERS-11

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0	01/05/10	L. Maserjian	B. Allen

FIELD DOCUMENTATION

STANDARD OPERATING PROCEDURE

Method Summary: To ensure the quality and integrity of field and analytical data, field activities will be documented in the project field notebook. In the event that more than one person is working on the site and performing different activities, more than one field notebook will be designated for the site. When the field notebook is filled, a new notebook will be started. Pertinent protocols for documenting field activities are provided below.

Notebook Cover: The cover of each field notebook will contain the following information:

- Job title
- Job number
- Name of company
- Name of personnel in charge of notebook
- Date of field activities covered in the notebook.

First Page of Each Day: The following information must be provided in the beginning of each day of work:

- Job title
- Names of all personnel on site
- Weather conditions
- Location, if multiple sites
- Health and Safety meeting notes.

Each Page of Notebook: The following information must be provided on each page of the field notebook:

- Date
- Initials or signature of person taking notes (bottom of page)
- Location, if you have changed during the day
- Page number, if not on the notebook.

Required General Information for Field Notebooks:

- Do not erase mistakes/errors – draw a line through the deletion and initial it.
- Do not leave pages blank. If a page is skipped, draw a diagonal line across the page and initial the line.
- Record persons arriving and leaving site (guests to site, clients, regulatory agency personnel).
- Record health and safety issues that arise (close calls or accidents should also be documented on required forms).
- Note photographs taken and direction in which photograph was taken.
- Take an overview photograph of site before digging/drilling, etc.
- Include a photograph of the site after it is restored (if applicable).

Required Documentation for Sample Collection Activities:

- Instrument name;
- Calibration record (when, by whom, results, gas type);
- Sampling location map with North arrow (field-screening and analytical samples);
- Sample ID, with description of soil material;
- Duplicate information;
- Sample time, each sample;
- Sample depth;
- List what analyses sample will be analyzed for;
- Field-screening measurements;
- Type of machinery used if not already recorded on field forms (Macro-Core sampler, split spoon, pumps, sampling meters);
- If Global Positioning System (GPS) is used, make note of where it was used;
- Delivery or pick-up information (airway bill #, FedEx tracking #, FedEx pick up information).

Required Documentation for Underground Storage Tank (UST)/Aboveground Storage Tank (AST) Removal Activities:

- UST or AST dimensions;
- Dimensions of tank excavations, depth to groundwater, and depth of excavation;
- Footage of fuel piping (how many feet from dispenser to tanks);

- Where vent lines, fill ports, dispensers and pipe runs are located;
- Location of piping joints;
- Amount of sludge/water removed from tanks prior to decommissioning;
- Amount of contaminated soil/media (cubic yards of stockpiles);
- Amount of contaminated soil or debris hauled from site (number of truckloads);
- Amount of clean fill brought to the site;
- Type of machinery used.

Required Documentation for Monitoring Well/Soil Boring Activities (T his list does not include the documentation that will be provided on a boring log and groundwater sample collection form.):

- Always collect swing-tie measurements to monitoring wells (even if you have a GPS);
- If drillers add water during well installation, note how much was added;
- Well screen slot size;
- Well filter sand pack size;
- Depth of top and bottom of well screen;
- Total depth of well;
- Amount of well construction materials used for each well (e.g., bags of silica sand, concrete, amount of screened casing, and amount of blank casing);
- Location of sand filter pack, bentonite seal, and grout used;
- Amount of water removed during development (unless you are using a well development form);
- Drill rig type;
- Changes in level of the water table/ aquifer.

Interferences and Potential Problems: Improper documentation of field activities may result in a number of problems, including, but not limited to:

- Inability to find sample collection locations that is needed for maps or finding areas for further assessment/excavation;
- Inability to create an as-built map;
- Inability to legally support data due to poor documentation;
- Development of erroneous conclusions regarding site contamination based on inaccurate data and/or problems correlating data and sample locations at the site;
- Difficulty in writing thorough reports due to poor documentation.

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BRISTOL ENVIRONMENTAL REMEDIATION SERVICES, LLC

DOCUMENT CONTROL SYSTEM

STANDARD OPERATING PROCEDURE BERS-15

Record of Changes

Revision No.	Date	Prepared by	Approved by
0	01/14/10	L. Pheasant	P. Curl
1	08/14/14	L. Pheasant	P. Curl

DOCUMENT CONTROL SYSTEM

When preparing a report, plan, or client deliverable, schedule the formatting and editing of the document with Document Services. If, at any time, you have questions about where your document is in the process, the Document Production Lead will be able to assist you and answer any questions you may have.

At a minimum, a discussion between the Project Manager (PM) or Primary Author (PA) and the Document Services Team should take place to decide how the document should be processed. Mutual understanding about time/budget considerations, special needs, client requirements, reasons for deviations from the norm, etc., will prevent much frustration for author, editor, and Document Services Team.

Schedule work as far in advance of the client deadline as possible.

Document Production Checklist

When the document is ready for formatting and editing, complete a Document Tracking Sheet (green sheet) (Attachment 1), and email it to the Document Services Team. The Document Production Lead will add the deliverable to the schedule, located on the Intranet (http://intranet.beesc.org/marketingpub/default.aspx), where it can be tracked. The green sheet is the record of who reviewed the document, along with what was done and provides information on number of copies and distribution. The green sheet should be kept with the project files as a record of the document production.

Document Tracking

All documents must have specific deadlines. Once the document has been submitted, the Document Manager/Technical Editor will present it to the Document Production Lead for formatting. The document will then be given to the Editor. After the document has been edited, the Editor will notify the PM/PA that the document is available for review and acceptance/rejection of the redline changes. Once the PM/PA has reviewed the document, it will be returned to the Document Production Lead for a review of the formatting and reproduction.

The written content of the document must be at least 90 to 95 percent complete before submission to the Document Services Team. If there are sections to be added/changed after submitting it to the Document Services Team, submit them via email, in a separate document, and explain where the information is to be inserted. Do not make electronic changes to the document until it has been returned to you for review. If changes must be made, use Track Changes, so that the Editor knows which changes to review.

This precaution is taken to ensure that documents maintain their integrit y (particularly large documents), and that the Document Services Team is aware of any changes made after the document has been submitted.

The physical content of documents submitted for formatting/editing should be complete. This means all text, figures, forms, photographs, inserts, etc., must be provided. If the figures, photographs, tables, etc., are not ready, a placeholder must be inserted and edited when available.

Document Labeling and Location

The Document Production Lead will insert the file name and path in the footer on the last page of every document (font size will be 6 or 7 point). This will ensure that the document can be located at a later date/time. The contract number and Bristol job number will be inserted in the header of the document. An electronic copy of the final document will be placed in the project file on the Bristol computer network, which is backed up daily.

ATTACHMENT 1

Document Production Checklist

DOCUMENT TRACKING SHEET

Job No. ____________ Phase Code ______________ Job Name: ____________________________

Project Manager: ___________ Phone/Ext. _______ Primary Author _____________ Phone/Ext. _______

File Path: ____

Company: ☐ BESC ☐ BCS ☐ BDBS ☐ BERS ☐ BGC Other ____________________

Client Due Date: _______________ Time: ____________ Is this flexible? Yes ☐ No ☐

PM Due Date _______________ Time: ____________ Is this flexible? Yes ☐ No ☐

Overtime approved to meet deadline? ☐ Yes ☐ No

DOCUMENT SERVICES

Approx. no. pages __________ Edit ☐ Format ☐ Copies ☐

Total No. of Hard Copies (client/PM /field/file): ________ PDF only ☐ Number of CDs/DVDs: __________

Binding will be comb-bound unless size dictates that it be in a 3-ring binder Check if this is a MED document ☐

List/Provide Figures/Appendices/Attachments:

Reviewer(s)* (please list)	**Type of Review** (Full, MED, Chemistry, etc.)	**Reviewer Initials**	**Date**

*Greg Jarrell, Scott Ruth, Bob Allen, Tyler Ellingboe

Notes/Comments:

____

____

____

APPENDIX B

Bristol Field Forms

Bristol
ENVIRONMENTAL REMEDIATION SERVICES, LLC

GROUNDWATER LOW-FLOW PURGING FORM

Job Name ______ Well No.: ______
Job Number ______ Well Type: ☐ Monitor ☐ Extraction ☐ Other ______
Company ______ Well Material ☐ PVC ☐ St. Steel ☐ Other ______
______ Date ______ Time: ______
Purged by ______ ______
(Signature)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):

☐ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other ______

Total Depth of Casing (TD in feet BTOC): ______

Water Level Depth (WL in feet BTOC): ______

______

PURGE METHOD

☐ Pump – Type: ______

☐ Submersible ☐ Centrifugal ☐ Bladder ☐ Peristaltic.

☐ Other – Type: ______

PUMP INTAKE SETTING

☐ Near Bottom ☐ Near Top ☐ Other

Depth in feet (BTOC): ______ Screen Interval in Feet (BTOC)

PURGE TIME

______ Start ______ Stop ______ Elapsed

PURGE RATE

Initial ______ gpm Final ______ gpm

ACTUAL PURGE VOLUME

______ gallons

FIELD PARAMETER MEASUREMENT

Minutes Since Pumping Began	Water Depth below MP	Pump Dial	Purge Rate (ml/min)	T ☐ °C ☐ °F	Specific Cond. (μS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Cumulative Volume Purged

GROUNDWATER LOW-FLOW PURGING FORM (continued)

FIELD PARAMETER MEASUREMENT (Continued)

Minutes Since Pumping Began	Water Depth below MP	Pump Dial	Purge Rate (ml/min)	T ☐ °C ☐ °F	Specific Cond. (µS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Cumulative Volume Purged

GROUNDWATER SAMPLING FORM
(To Accompany Low-Flow Purging Form)

Bristol
ENVIRONMENTAL
REMEDIATION SERVICES, LLC

Job Name ______________________

Job Number ____________ Date ____________ Time: ____________

Recorded by ____________ Sampled by ____________
(Signature)

WELL INFORMATION

Well Number ____________ **Well Location** ____________

Casing Diameter (D in inches):

☐ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other ________

Total Depth of Casing (TD in feet BTOC):

Water Level Depth (WL in feet BTOC):

WELL SAMPLING

SAMPLING METHOD

☐ Bailer – Type: ____________ ☐ Grab – Type ____________

☐ Submersible ☐ Centrifugal ☐ Bladder ________ ☐ Other – Type: ____________

SAMPLING DISTRIBUTION

Sample No.	Volume	Analysis Requested	Preservatives	Lab	Comments

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical™ www.pacelabs.com

Page: of

Section A Required Client Information:

Company:	Bristol Environmental Remediation Svc
Address:	111 W 16th Ave. Third Floor
	Anchorage, AK 99501
Email To:	Matt Faust
Phone:	907-743-9346 Fax:
Requested Due Date/TAT:	10 business days

Section B Required Project Information:

Report To:	Matt Faust
Copy To:	Robert Beckman
Purchase Order No.:	
Project Name:	Tower Standard LUST Site
Project Number:	BERS# 34170026; EPA TO 3012

Section C Invoice Information:

Attention:	Matt Faust
Company Name:	Bristol Environmental Remediation
Address:	See client info
Pace Quote Reference:	
Pace Project Manager:	Shawn Davis
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☑ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: WI

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	SW8260 VOCs	SW8011 EDB	SW6020 RCRA 8, Mn, Fe	WI DRO	WI GRO	H2S SM4500-S2D	Sulfate, Nitrate EPA 300.0					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report analytical results to the MDL										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day paymer t terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

EPA-R5-2017-010506_0002851

WELL CONSTRUCTION DETAILS

Site Name: ____________ Driller: ____________
Project Number: ____________ Geologist: ____________
Location: ____________ Client: ____________

Well ID: ____________
Borehole ID: ____________
Date Started: **Date Finished:**

STATIC WATER LEVEL (after completion)

________ FT (TOC) Date/Time ________
________ FT (TOC) Date/Time ________

WELL DIAGRAM - NOT TO SCALE

DEPTH (FT. BGS)

ANNULAR SPACE DETAILS

Type of Annular Sealant (Grout): ____________
Installation Method: ____________
Type of Bentonite Seal: Granular / Pellet / Slurry (Choose One)
Number of Bags Used: ____________
Installation Method: ____________
Type of Sand Pack: ____________
Installation Method: ____________
Number of bags Used: ____________

CONSTRUCTION DEPTHS (BGS)

Top of Casing: ____________
Ground Surface: 0 feet
Top of Annular Sealant (Grout): ____________
Top of Bentonite: ____________
Top of Sand Pack: ____________
Top of Screen: ____________
Bottom of Well: ____________
Bottom of Borehole: ____________

CASING MEASUREMENTS

Diameter of Borehole (inches): ____________
Diameter of Casing (inches): ____________
Length of End Cap (inches): ____________
Screen Length: ____________
Total Length of Casing (feet): ____________

WELL CONSTRUCTION MATERIALS

Monument Box: ____________
Screen Slot Size: ____________
Casing Type: ____________

NOTES (added water, etc.)

APPENDIX C

Pace Analytical Services, Inc.
Laboratory Certifications

Minnesota Department of Health
Environmental Laboratory Accreditation Program

Issues accreditation to

State Laboratory ID: 027-053-137

EPA Lab Code: MN00064

Pace Analytical Services, Inc - Mpls
1700 Elm Street SE, Suite 200
Minneapolis, MN 55414

for fields of accreditation listed on the laboratory's accompanying Scope of Certification in accordance with the provisions in Minnesota Laws and Rules.

Continued accreditation is contingent upon successful on-going compliance with Minnesota Statutes 144.97 to 144.98, 2009 TNI Standard and applicable Minnesota Rules 4740.2010 to 4740.2120. The laboratory's Scope of Certification cites the specific programs, methods, analytes and matrices for which MDH issues this accreditation.

This certificate is valid proof of accreditation only when associated with its accompanying Scope of Certification.

The Scope of Certification and reports of on-site assessments are on file at the Minnesota Department of Health, 601 Robert Street North, Saint Paul, Minnesota. Customers may verify the laboratory's accreditation status in Minnesota by contacting MNELAP at (651) 201-5324.

Effective Date: 12/28/2015
Expires: 12/31/2016
Certificate Number: 1004041

Issued under the authority delegated by the Commissioner of Health, State of Minnesota

Environmental Laboratory Accreditation Program
Scope of Certification

THIS LISTING OF FIELDS OF ACCREDITATION MUST BE ACCOMPANIED BY CERTIFICATE NUMBER: 1004041

State Laboratory ID: 027-053-137 EPA Lab Code: MN00064 Issue Date: 12/28/2015
Expiration Date: 12/31/2016

Pace Analytical Services, Inc - Mpls
1700 Elm Street SE, Suite 200
Minneapolis, MN 55414

Clean Air Act

EPA 3C

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA 3C	Carbon dioxide	AIR	MN	
CAA	EPA 3C	Carbon monoxide	AIR	MN	
CAA	EPA 3C	Methane	AIR	MN	
CAA	EPA 3C	Nitrogen	AIR	MN	
CAA	EPA 3C	Oxygen	AIR	MN	

EPA Method 23

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA Method 23	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	AIR	MN	
CAA	EPA Method 23	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	AIR	MN	
CAA	EPA Method 23	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	AIR	MN	
CAA	EPA Method 23	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	AIR	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA Method 23	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	AIR	MN	
CAA	EPA Method 23	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	AIR	MN	
CAA	EPA Method 23	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	AIR	MN	
CAA	EPA Method 23	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	AIR	MN	
CAA	EPA Method 23	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	AIR	MN	
CAA	EPA Method 23	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	AIR	MN	
CAA	EPA Method 23	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	AIR	MN	
CAA	EPA Method 23	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	AIR	MN	
CAA	EPA Method 23	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	AIR	MN	
CAA	EPA Method 23	2,3,4,6,7,8-Hexachlorodibenzofuran	AIR	MN	
CAA	EPA Method 23	2,3,4,7,8-Pentachlorodibenzofuran	AIR	MN	
CAA	EPA Method 23	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	AIR	MN	
CAA	EPA Method 23	2,3,7,8-Tetrachlorodibenzofuran	AIR	MN	

EPA RSK-175 (GC/FID)

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA RSK-175 (GC/FID)	Ethane	AIR	MN	
CAA	EPA RSK-175 (GC/FID)	Ethene	AIR	MN	
CAA	EPA RSK-175 (GC/FID)	Methane	AIR	MN	
CAA	EPA RSK-175 (GC/FID)	n-Propane	AIR	MN	

EPA TO-13A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-13A	2-Methylnaphthalene	AIR	MN	
CAA	EPA TO-13A	Acenaphthene	AIR	MN	
CAA	EPA TO-13A	Acenaphthylene	AIR	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-13A	Anthracene	AIR	MN	
CAA	EPA TO-13A	Benzo(a)anthracene	AIR	MN	
CAA	EPA TO-13A	Benzo(a)pyrene	AIR	MN	
CAA	EPA TO-13A	Benzo(e)pyrene	AIR	MN	
CAA	EPA TO-13A	Benzo(g,h,i)perylene	AIR	MN	
CAA	EPA TO-13A	Benzo(k)fluoranthene	AIR	MN	
CAA	EPA TO-13A	Benzo[b]fluoranthene	AIR	MN	
CAA	EPA TO-13A	Chrysene	AIR	MN	
CAA	EPA TO-13A	Dibenz(a,h) anthracene	AIR	MN	
CAA	EPA TO-13A	Fluoranthene	AIR	MN	
CAA	EPA TO-13A	Fluorene	AIR	MN	
CAA	EPA TO-13A	Indeno(1,2,3-cd) pyrene	AIR	MN	
CAA	EPA TO-13A	Naphthalene	AIR	MN	
CAA	EPA TO-13A	Phenanthrene	AIR	MN	
CAA	EPA TO-13A	Pyrene	AIR	MN	

EPA TO-14A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-14A	1,1,1-Trichloroethane	AIR	MN	
CAA	EPA TO-14A	1,1,2,2-Tetrachloroethane	AIR	MN	
CAA	EPA TO-14A	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIR	MN	
CAA	EPA TO-14A	1,1,2-Trichloroethane	AIR	MN	
CAA	EPA TO-14A	1,1-Dichloroethane	AIR	MN	
CAA	EPA TO-14A	1,1-Dichloroethylene	AIR	MN	
CAA	EPA TO-14A	1,2,4-Trichlorobenzene	AIR	MN	
CAA	EPA TO-14A	1,2,4-Trimethylbenzene	AIR	MN	
CAA	EPA TO-14A	1,2-Dibromoethane (EDB, Ethylene dibromide)	AIR	MN	
CAA	EPA TO-14A	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114)	AIR	MN	
CAA	EPA TO-14A	1,2-Dichlorobenzene	AIR	MN	
CAA	EPA TO-14A	1,2-Dichloroethane (Ethylene dichloride)	AIR	MN	
CAA	EPA TO-14A	1,2-Dichloroethene (total)	AIR	MN	
CAA	EPA TO-14A	1,2-Dichloropropane	AIR	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-14A	1,3-Dichlorobenzene	AIR	MN	
CAA	EPA TO-14A	1,4-Dichlorobenzene	AIR	MN	
CAA	EPA TO-14A	Benzene	AIR	MN	
CAA	EPA TO-14A	Benzyl chloride	AIR	MN	
CAA	EPA TO-14A	Bromomethane	AIR	MN	
CAA	EPA TO-14A	Carbon tetrachloride	AIR	MN	
CAA	EPA TO-14A	Chlorobenzene	AIR	MN	
CAA	EPA TO-14A	Chloroethane (Ethyl chloride)	AIR	MN	
CAA	EPA TO-14A	Chloroform	AIR	MN	
CAA	EPA TO-14A	cis-1,2-Dichloroethylene	AIR	MN	
CAA	EPA TO-14A	cis-1,3-Dichloropropene	AIR	MN	
CAA	EPA TO-14A	Dichlorodifluoromethane (Freon-12)	AIR	MN	
CAA	EPA TO-14A	Ethylbenzene	AIR	MN	
CAA	EPA TO-14A	Hexachloro-1,3-butadiene	AIR	MN	
CAA	EPA TO-14A	m+p-xylene	AIR	MN	
CAA	EPA TO-14A	Methyl chloride (Chloromethane)	AIR	MN	
CAA	EPA TO-14A	Methyl tert-butyl ether (MTBE)	AIR	MN	
CAA	EPA TO-14A	Methylene chloride (Dichloromethane)	AIR	MN	
CAA	EPA TO-14A	n-Hexane	AIR	MN	
CAA	EPA TO-14A	o-Xylene	AIR	MN	
CAA	EPA TO-14A	Styrene	AIR	MN	
CAA	EPA TO-14A	Tetrachloroethene	AIR	MN	
CAA	EPA TO-14A	THC as Gas	AIR	MN	
CAA	EPA TO-14A	Toluene	AIR	MN	
CAA	EPA TO-14A	trans-1,2-Dichloroethylene	AIR	MN	
CAA	EPA TO-14A	trans-1,3-Dichloropropylene	AIR	MN	
CAA	EPA TO-14A	Trichloroethene (Trichloroethylene)	AIR	MN	
CAA	EPA TO-14A	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	AIR	MN	
CAA	EPA TO-14A	Vinyl chloride	AIR	MN	
CAA	EPA TO-14A	Xylene (total)	AIR	MN	

EPA TO-17

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-17	1,1,1-Trichloroethane	AIR	MN	
CAA	EPA TO-17	1,1,2,2-Tetrachloroethane	AIR	MN	
CAA	EPA TO-17	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIR	MN	
CAA	EPA TO-17	1,1,2-Trichloroethane	AIR	MN	
CAA	EPA TO-17	1,1-Dichloroethane	AIR	MN	
CAA	EPA TO-17	1,1-Dichloroethylene	AIR	MN	
CAA	EPA TO-17	1,2,4-Trichlorobenzene	AIR	MN	
CAA	EPA TO-17	1,2,4-Trimethylbenzene	AIR	MN	
CAA	EPA TO-17	1,2-Dibromoethane (EDB, Ethylene dibromide)	AIR	MN	
CAA	EPA TO-17	1,2-Dichlorobenzene	AIR	MN	
CAA	EPA TO-17	1,2-Dichloroethane (Ethylene dichloride)	AIR	MN	
CAA	EPA TO-17	1,2-Dichloropropane	AIR	MN	
CAA	EPA TO-17	1,3,5-Trimethylbenzene	AIR	MN	
CAA	EPA TO-17	1,3-Butadiene	AIR	MN	
CAA	EPA TO-17	1,3-Dichlorobenzene	AIR	MN	
CAA	EPA TO-17	1,4-Dichlorobenzene	AIR	MN	
CAA	EPA TO-17	1,4-Dioxane (1,4- Diethyleneoxide)	AIR	MN	
CAA	EPA TO-17	1-Propene	AIR	MN	
CAA	EPA TO-17	2-Butanone (Methyl ethyl ketone, MEK)	AIR	MN	
CAA	EPA TO-17	2-Hexanone	AIR	MN	
CAA	EPA TO-17	4-Ethyltoluene	AIR	MN	
CAA	EPA TO-17	4-Methyl-2-pentanone (MIBK)	AIR	MN	
CAA	EPA TO-17	Acetone	AIR	MN	
CAA	EPA TO-17	Acrolein (Propenal)	AIR	MN	
CAA	EPA TO-17	Acrylonitrile	AIR	MN	
CAA	EPA TO-17	Benzene	AIR	MN	
CAA	EPA TO-17	Benzyl chloride	AIR	MN	
CAA	EPA TO-17	Bromodichloromethane	AIR	MN	
CAA	EPA TO-17	Bromoform	AIR	MN	
CAA	EPA TO-17	Bromomethane	AIR	MN	
CAA	EPA TO-17	Carbon disulfide	AIR	MN	
CAA	EPA TO-17	Carbon tetrachloride	AIR	MN	
CAA	EPA TO-17	Chlorobenzene	AIR	MN	
CAA	EPA TO-17	Chloroethane (Ethyl chloride)	AIR	MN	
CAA	EPA TO-17	Chloroform	AIR	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-17	cis-1,2-Dichloroethylene	AIR	MN	
CAA	EPA TO-17	cis-1,3-Dichloropropene	AIR	MN	
CAA	EPA TO-17	Cyclohexane	AIR	MN	
CAA	EPA TO-17	Dibromochloromethane	AIR	MN	
CAA	EPA TO-17	Dichlorodifluoromethane (Freon-12)	AIR	MN	
CAA	EPA TO-17	Dichlorotetrafluoroethane	AIR	MN	
CAA	EPA TO-17	Ethanol	AIR	MN	
CAA	EPA TO-17	Ethyl acetate	AIR	MN	
CAA	EPA TO-17	Ethylbenzene	AIR	MN	
CAA	EPA TO-17	Hexachloro-1,3-butadiene	AIR	MN	
CAA	EPA TO-17	Isopropyl alcohol (2-Propanol, Isopropanol)	AIR	MN	
CAA	EPA TO-17	Isopropylbenzene	AIR	MN	
CAA	EPA TO-17	m+p-xylene	AIR	MN	
CAA	EPA TO-17	Methyl chloride (Chloromethane)	AIR	MN	
CAA	EPA TO-17	Methyl tert-butyl ether (MTBE)	AIR	MN	
CAA	EPA TO-17	Methylene chloride (Dichloromethane)	AIR	MN	
CAA	EPA TO-17	n-Butylbenzene	AIR	MN	
CAA	EPA TO-17	n-Heptane	AIR	MN	
CAA	EPA TO-17	n-Hexane	AIR	MN	
CAA	EPA TO-17	n-Propylbenzene	AIR	MN	
CAA	EPA TO-17	Naphthalene	AIR	MN	
CAA	EPA TO-17	o-Xylene	AIR	MN	
CAA	EPA TO-17	sec-Butylbenzene	AIR	MN	
CAA	EPA TO-17	Styrene	AIR	MN	
CAA	EPA TO-17	Tetrachloroethene	AIR	MN	
CAA	EPA TO-17	Tetrahydrofuran (THF)	AIR	MN	
CAA	EPA TO-17	Toluene	AIR	MN	
CAA	EPA TO-17	trans-1,2-Dichloroethylene	AIR	MN	
CAA	EPA TO-17	trans-1,3-Dichloropropylene	AIR	MN	
CAA	EPA TO-17	Trichloroethene (Trichloroethylene)	AIR	MN	
CAA	EPA TO-17	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	AIR	MN	
CAA	EPA TO-17	Vinyl acetate	AIR	MN	
CAA	EPA TO-17	Vinyl chloride	AIR	MN	

EPA TO-3

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-3	1,2,4-Trimethylbenzene	AIR	MN	
CAA	EPA TO-3	Benzene	AIR	MN	
CAA	EPA TO-3	Ethane	AIR	MN	
CAA	EPA TO-3	Ethene	AIR	MN	
CAA	EPA TO-3	Ethylbenzene	AIR	MN	
CAA	EPA TO-3	m+p-xylene	AIR	MN	
CAA	EPA TO-3	Methane	AIR	MN	
CAA	EPA TO-3	Methyl tert-butyl ether (MTBE)	AIR	MN	
CAA	EPA TO-3	n-Hexane	AIR	MN	
CAA	EPA TO-3	o-Xylene	AIR	MN	
CAA	EPA TO-3	THC as C1-C4	AIR	MN	
CAA	EPA TO-3	THC as Gas	AIR	MN	
CAA	EPA TO-3	Toluene	AIR	MN	
CAA	EPA TO-3	Total BTEX	AIR	MN	
CAA	EPA TO-3	Xylene (total)	AIR	MN	

EPA TO-9A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-9A	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	AIR	MN	
CAA	EPA TO-9A	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	AIR	MN	
CAA	EPA TO-9A	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	AIR	MN	
CAA	EPA TO-9A	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	AIR	MN	
CAA	EPA TO-9A	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	AIR	MN	
CAA	EPA TO-9A	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	AIR	MN	
CAA	EPA TO-9A	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	AIR	MN	
CAA	EPA TO-9A	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	AIR	MN	
CAA	EPA TO-9A	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	AIR	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CAA	EPA TO-9A	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	AIR	MN	
CAA	EPA TO-9A	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	AIR	MN	
CAA	EPA TO-9A	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	AIR	MN	
CAA	EPA TO-9A	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	AIR	MN	
CAA	EPA TO-9A	2,3,4,6,7,8-Hexachlorodibenzofuran	AIR	MN	
CAA	EPA TO-9A	2,3,4,7,8-Pentachlorodibenzofuran	AIR	MN	
CAA	EPA TO-9A	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	AIR	MN	
CAA	EPA TO-9A	2,3,7,8-Tetrachlorodibenzofuran	AIR	MN	

Modified EPA TO-17 Passive Tube

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CAA	Modified EPA TO-17 Passive Tube	1,1-Dichloroethane	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	1,1-Dichloroethylene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	1,2,4-Trimethylbenzene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	1,3,5-Trimethylbenzene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Benzene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Carbon tetrachloride	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Chloroform	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	cis-1,2-Dichloroethylene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Ethylbenzene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Isopropylbenzene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	m-Xylene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Methyl tert-butyl ether (MTBE)	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Naphthalene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	o-Xylene	AIR	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CAA	Modified EPA TO-17 Passive Tube	p-Xylene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Tetrachloroethene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Toluene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	trans-1,2-Dichloroethylene	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Trichloroethene (Trichloroethylene)	AIR	MN	
CAA	Modified EPA TO-17 Passive Tube	Vinyl chloride	AIR	MN	

Clean Water Program

ASTM D516-90

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	ASTM D516-90	Sulfate	NPW	MN	

EPA 120.1

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 120.1	Conductivity	NPW	MN	

EPA 160.4

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 160.4	Residue-volatile	NPW	MN	

EPA 1664A (HEM)

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE);

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1664A (HEM)	Oil & Grease	NPW	MN	

EPA 1664A (SGT-HEM)

Preparation Techniques: Extraction, solid phase (SPE);

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1664A (SGT-HEM)	Oil & Grease	NPW	MN	

EPA 180.1

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 180.1	Turbidity	NPW	MN	

EPA 300.0

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 300.0	Bromide	NPW	MN	
CWP	EPA 300.0	Chloride	NPW	MN	
CWP	EPA 300.0	Fluoride	NPW	MN	
CWP	EPA 300.0	Nitrate as N	NPW	MN	
CWP	EPA 300.0	Nitrite as N	NPW	MN	
CWP	EPA 300.0	Sulfate	NPW	MN	

EPA 350.1

Preparation Techniques: Distillation, MIDI;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 350.1	Ammonia as N	NPW	MN	

EPA 353.2

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 353.2	Nitrate-nitrite	NPW	MN	
CWP	EPA 353.2	Nitrite as N	NPW	MN	

EPA 353.2 (calc.)

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 353.2 (calc.)	Nitrate as N	NPW	MN	

EPA 410.4

Preparation Techniques: Digestion, hotplate or HotBlock;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 410.4	Chemical oxygen demand	NPW	MN	

EPA 420.4

Preparation Techniques: Distillation, MIDI;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 420.4	Total Phenolics	NPW	MN	

Hach 10360

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	Hach 10360	Biochemical oxygen demand	NPW	MN	
CWP	Hach 10360	Carbonaceous BOD, CBOD	NPW	MN	
CWP	Hach 10360	Oxygen, dissolved	NPW	MN	

SM 2320 B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 2320 B-97	Alkalinity as CaCO3	NPW	MN	

SM 2340 B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 2340 B-97	Total hardness as CaCO3	NPW	MN	

SM 2510 B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 2510 B-97	Conductivity	NPW	MN	

SM 2540 B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 2540 B-97	Residue-total	NPW	MN	

SM 2540 C-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 2540 C-97	Residue-filterable (TDS)	NPW	MN	

SM 2540 D-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 2540 D-97	Residue-nonfilterable (TSS)	NPW	MN	

SM 2540 F-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 2540 F-97	Residue-settleable	NPW	MN	

SM 4500-Cl G-93

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-Cl G-93	Total residual chlorine	NPW	MN	

SM 4500-Cl^- E-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-Cl^- E-97	Chloride	NPW	MN	

SM 4500-CN^- E-97

Preparation Techniques: Distillation, macro; Distillation, micro; Distillation, MIDI;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-CN^- E-97	Total Cyanide	NPW	MN	

SM 4500-CN^- G-97

Preparation Techniques: Distillation, macro; Distillation, micro; Distillation, MIDI;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-CN^- G-97	Free cyanide	NPW	MN	

SM 4500-F^- C-97

Preparation Techniques: N/A;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-F⁻ C-97	Fluoride	NPW	MN	

SM 4500-H+ B-96

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-H+ B-96	pH	NPW	MN	

SM 4500-NO2⁻ B-93

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-NO2⁻ B-93	Nitrite as N	NPW	MN	

SM 4500-NO3⁻ H-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-NO3⁻ H-97	Nitrate-nitrite	NPW	MN	

SM 4500-P E-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-P E-97	Orthophosphate as P	NPW	MN	
CWP	SM 4500-P E-97	Total Phosphorus	NPW	MN	

SM 4500-P G-1999

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 4500-P G-1999	Orthophosphate as P	NPW	MN	

SM 5220 D-97

Preparation Techniques: Digestion, hotplate or HotBlock;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 5220 D-97	Chemical oxygen demand	NPW	MN	

EPA 200.7

Preparation Techniques: Digestion, hotplate or HotBlock;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 200.7	Aluminum	NPW	MN	
CWP	EPA 200.7	Antimony	NPW	MN	
CWP	EPA 200.7	Arsenic	NPW	MN	
CWP	EPA 200.7	Barium	NPW	MN	
CWP	EPA 200.7	Beryllium	NPW	MN	
CWP	EPA 200.7	Boron	NPW	MN	
CWP	EPA 200.7	Cadmium	NPW	MN	
CWP	EPA 200.7	Calcium	NPW	MN	
CWP	EPA 200.7	Cobalt	NPW	MN	
CWP	EPA 200.7	Copper	NPW	MN	
CWP	EPA 200.7	Iron	NPW	MN	
CWP	EPA 200.7	Lead	NPW	MN	
CWP	EPA 200.7	Magnesium	NPW	MN	
CWP	EPA 200.7	Manganese	NPW	MN	
CWP	EPA 200.7	Molybdenum	NPW	MN	
CWP	EPA 200.7	Nickel	NPW	MN	
CWP	EPA 200.7	Potassium	NPW	MN	
CWP	EPA 200.7	Selenium	NPW	MN	
CWP	EPA 200.7	Silver	NPW	MN	
CWP	EPA 200.7	Sodium	NPW	MN	
CWP	EPA 200.7	Thallium	NPW	MN	
CWP	EPA 200.7	Tin	NPW	MN	
CWP	EPA 200.7	Titanium	NPW	MN	
CWP	EPA 200.7	Total chromium	NPW	MN	
CWP	EPA 200.7	Vanadium	NPW	MN	
CWP	EPA 200.7	Zinc	NPW	MN	

EPA 200.7

Preparation Techniques: Digestion, hotplate or HotBlock;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 200.7	Total hardness as CaCO3	NPW	MN	

EPA 200.8

Preparation Techniques: Digestion, hotplate or HotBlock;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 200.8	Aluminum	NPW	MN	
CWP	EPA 200.8	Antimony	NPW	MN	
CWP	EPA 200.8	Arsenic	NPW	MN	
CWP	EPA 200.8	Barium	NPW	MN	
CWP	EPA 200.8	Beryllium	NPW	MN	
CWP	EPA 200.8	Bismuth	NPW	MN	
CWP	EPA 200.8	Boron	NPW	MN	
CWP	EPA 200.8	Cadmium	NPW	MN	
CWP	EPA 200.8	Calcium	NPW	MN	
CWP	EPA 200.8	Chromium	NPW	MN	
CWP	EPA 200.8	Cobalt	NPW	MN	
CWP	EPA 200.8	Copper	NPW	MN	
CWP	EPA 200.8	Iron	NPW	MN	
CWP	EPA 200.8	Lead	NPW	MN	
CWP	EPA 200.8	Lithium	NPW	MN	
CWP	EPA 200.8	Magnesium	NPW	MN	
CWP	EPA 200.8	Manganese	NPW	MN	
CWP	EPA 200.8	Molybdenum	NPW	MN	
CWP	EPA 200.8	Nickel	NPW	MN	
CWP	EPA 200.8	Palladium	NPW	MN	
CWP	EPA 200.8	Platinum	NPW	MN	
CWP	EPA 200.8	Potassium	NPW	MN	
CWP	EPA 200.8	Selenium	NPW	MN	
CWP	EPA 200.8	Silicon	NPW	MN	
CWP	EPA 200.8	Silver	NPW	MN	
CWP	EPA 200.8	Sodium	NPW	MN	
CWP	EPA 200.8	Strontium	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 200.8	Thallium	NPW	MN	
CWP	EPA 200.8	Tin	NPW	MN	
CWP	EPA 200.8	Titanium	NPW	MN	
CWP	EPA 200.8	Total chromium	NPW	MN	
CWP	EPA 200.8	Uranium	NPW	MN	
CWP	EPA 200.8	Vanadium	NPW	MN	
CWP	EPA 200.8	Zinc	NPW	MN	

EPA 245.1

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 245.1	Mercury	NPW	MN	

EPA 7471B

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 7471B	Mercury	NPW	MN	User Defined S-MN-I-306 Rev. 00

SM 3500-Cr B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 3500-Cr B-97	Chromium VI	NPW	MN	

SM 9222 B (M-Endo)-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 9222 B (M-Endo)-97	Total coliforms	NPW	MN	

SM 9222 D (m-FC)-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 9222 D (m-FC)-97	Fecal coliforms	NPW	MN	

SM 9223 B (Colilert® Quanti-Tray®)-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	SM 9223 B (Colilert® Quanti-Tray®)-97	Escherichia coli	NPW	MN	

EPA 1613B

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, solid phase (SPE); Extraction, automated soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	NPW	MN	
CWP	EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	NPW	MN	
CWP	EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	NPW	MN	
CWP	EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	NPW	MN	
CWP	EPA 1613B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	NPW	MN	
CWP	EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	NPW	MN	
CWP	EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	NPW	MN	
CWP	EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	NPW	MN	
CWP	EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	NPW	MN	
CWP	EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	NPW	MN	
CWP	EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	NPW	MN	
CWP	EPA 1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	NPW	MN	
CWP	EPA 1613B	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1613B	2,3,4,6,7,8-Hexachlorodibenzofuran	NPW	MN	
CWP	EPA 1613B	2,3,4,7,8-Pentachlorodibenzofuran	NPW	MN	
CWP	EPA 1613B	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	NPW	MN	
CWP	EPA 1613B	2,3,7,8-Tetrachlorodibenzofuran	NPW	MN	
CWP	EPA 1613B	Total HpCDD	NPW	MN	
CWP	EPA 1613B	Total HpCDF	NPW	MN	
CWP	EPA 1613B	Total HxCDD	NPW	MN	
CWP	EPA 1613B	Total HxCDF	NPW	MN	
CWP	EPA 1613B	Total PeCDD	NPW	MN	
CWP	EPA 1613B	Total PeCDF	NPW	MN	
CWP	EPA 1613B	Total TCDD	NPW	MN	
CWP	EPA 1613B	Total TCDF	NPW	MN	

EPA 1668A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1668A	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ-206)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (BZ-194)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,4',5,6'-Octachlorobiphenyl (BZ-196)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (BZ-207)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ-195)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ-170)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,5',6'-Heptachlorobiphenyl (BZ-177)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ-201)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,5',6-Heptachlorobiphenyl (BZ-175)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,5'-Hexachlorobiphenyl (BZ-130)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ-208)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,5,5'-Heptachlorobiphenyl (BZ-172)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1668A	2,2',3,3',4,5,6'-Heptachlorobiphenyl (BZ-174)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,6'-Hexachlorobiphenyl (BZ-132)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,6,6'-Heptachlorobiphenyl (BZ-176)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4,6-Hexachlorobiphenyl (BZ-131)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',4-Pentachlorobiphenyl (BZ-82)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ-202)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',5,5',6-Heptachlorobiphenyl (BZ-178)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',5,5'-Hexachlorobiphenyl (BZ-133)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',5,6,6'-Heptachlorobiphenyl (BZ-179)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',5-Pentachlorobiphenyl (BZ-83)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',6,6'-Hexachlorobiphenyl (BZ-136)	NPW	MN	
CWP	EPA 1668A	2,2',3,3',6-Pentachlorobiphenyl (BZ-84)	NPW	MN	
CWP	EPA 1668A	2,2',3,4',5,5'-Hexachlorobiphenyl (BZ-146)	NPW	MN	
CWP	EPA 1668A	2,2',3,4',5,6'-Hexachlorobiphenyl (BZ-148)	NPW	MN	
CWP	EPA 1668A	2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ-188)	NPW	MN	
CWP	EPA 1668A	2,2',3,4',6,6'-Hexachlorobiphenyl (BZ-150)	NPW	MN	
CWP	EPA 1668A	2,2',3,4'-Tetrachlorobiphenyl (BZ-42)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,4',5,5',6-Octachlorobiphenyl (BZ-203)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ-182)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,4',5,6,6'-Octachlorobiphenyl (BZ-204)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,4',5,6-Heptachlorobiphenyl (BZ-181)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,4',5-Hexachlorobiphenyl (BZ-137)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,4',6,6'-Heptachlorobiphenyl (BZ-184)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,5',6-Hexachlorobiphenyl (BZ-144)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,5,5'-Hexachlorobiphenyl (BZ-141)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,5,6,6'-Heptachlorobiphenyl (BZ-186)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1668A	2,2',3,4,5,6-Hexachlorobiphenyl (BZ-142)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,6'-Pentachlorobiphenyl (BZ-89)	NPW	MN	
CWP	EPA 1668A	2,2',3,4,6,6'-Hexachlorobiphenyl (BZ-145)	NPW	MN	
CWP	EPA 1668A	2,2',3,5',6-Pentachlorobiphenyl (BZ-95)	NPW	MN	
CWP	EPA 1668A	2,2',3,5,5'-Pentachlorobiphenyl (BZ-92)	NPW	MN	
CWP	EPA 1668A	2,2',3,5,6'-Pentachlorobiphenyl (BZ-94)	NPW	MN	
CWP	EPA 1668A	2,2',3,5,6,6'-Hexachlorobiphenyl (BZ-152)	NPW	MN	
CWP	EPA 1668A	2,2',3,6'-Tetrachlorobiphenyl (BZ-46)	NPW	MN	
CWP	EPA 1668A	2,2',3,6,6'-Pentachlorobiphenyl (BZ-96)	NPW	MN	
CWP	EPA 1668A	2,2',3-Trichlorobiphenyl (BZ-16)	NPW	MN	
CWP	EPA 1668A	2,2',4,4',5,6'-Hexachlorobiphenyl (BZ-154)	NPW	MN	
CWP	EPA 1668A	2,2',4,4',5-Pentachlorobiphenyl (BZ-99)	NPW	MN	
CWP	EPA 1668A	2,2',4,4',6,6'-Hexachlorobiphenyl (BZ-155)	NPW	MN	
CWP	EPA 1668A	2,2',4,5',6-Pentachlorobiphenyl (BZ-103)	NPW	MN	
CWP	EPA 1668A	2,2',4,5-Tetrachlorobiphenyl (BZ-48)	NPW	MN	
CWP	EPA 1668A	2,2',4,6,6'-Pentachlorobiphenyl (BZ-104)	NPW	MN	
CWP	EPA 1668A	2,2',4-Trichlorobiphenyl (BZ-17)	NPW	MN	
CWP	EPA 1668A	2,2',5,5'-Tetrachlorobiphenyl (BZ-52)	NPW	MN	
CWP	EPA 1668A	2,2',6,6'-Tetrachlorobiphenyl (BZ-54)	NPW	MN	
CWP	EPA 1668A	2,2',6-Trichlorobiphenyl (BZ-19)	NPW	MN	
CWP	EPA 1668A	2,2'-Dichlorobiphenyl (BZ-4)	NPW	MN	
CWP	EPA 1668A	2,3',4,4',5'-Pentachlorobiphenyl (BZ-123)	NPW	MN	
CWP	EPA 1668A	2,3',4,4',5,5'-Hexachlorobiphenyl (BZ-167)	NPW	MN	
CWP	EPA 1668A	2,3',4,4',5-Pentachlorobiphenyl (BZ-118)	NPW	MN	
CWP	EPA 1668A	2,3',4,4'-Tetrachlorobiphenyl (BZ-66)	NPW	MN	
CWP	EPA 1668A	2,3',4,5',6-Pentachlorobiphenyl (BZ-121)	NPW	MN	
CWP	EPA 1668A	2,3',4,5'-Tetrachlorobiphenyl (BZ-68)	NPW	MN	
CWP	EPA 1668A	2,3',4,5,5'-Pentachlorobiphenyl (BZ-120)	NPW	MN	
CWP	EPA 1668A	2,3',4,5-Tetrachlorobiphenyl (BZ-67)	NPW	MN	
CWP	EPA 1668A	2,3',4-Trichlorobiphenyl (BZ-25)	NPW	MN	
CWP	EPA 1668A	2,3',5'-Trichlorobiphenyl (BZ-34)	NPW	MN	
CWP	EPA 1668A	2,3',5,5'-Tetrachlorobiphenyl (BZ-72)	NPW	MN	
CWP	EPA 1668A	2,3',6-Trichlorobiphenyl (BZ-27)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1668A	2,3'-Dichlorobiphenyl (BZ-6)	NPW	MN	
CWP	EPA 1668A	2,3,3',4',5',6-Hexachlorobiphenyl (BZ-164)	NPW	MN	
CWP	EPA 1668A	2,3,3',4',5'-Pentachlorobiphenyl (BZ-122)	NPW	MN	
CWP	EPA 1668A	2,3,3',4',5,5'-Hexachlorobiphenyl (BZ-162)	NPW	MN	
CWP	EPA 1668A	2,3,3',4'-Tetrachlorobiphenyl (BZ-56)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,4',5',6-Heptachlorobiphenyl (BZ-191)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ-205)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ-189)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,4',5,6-Heptachlorobiphenyl (BZ-190)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,4',6-Hexachlorobiphenyl (BZ-158)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,4'-Pentachlorobiphenyl (BZ-105)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,5',6-Hexachlorobiphenyl (BZ-161)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,5,5',6-Heptachlorobiphenyl (BZ-192)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,5,5'-Hexachlorobiphenyl (BZ-159)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,5,6-Hexachlorobiphenyl (BZ-160)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,5-Pentachlorobiphenyl (BZ-106)	NPW	MN	
CWP	EPA 1668A	2,3,3',4,6-Pentachlorobiphenyl (BZ-109)	NPW	MN	
CWP	EPA 1668A	2,3,3',4-Tetrachlorobiphenyl (BZ-55)	NPW	MN	
CWP	EPA 1668A	2,3,3',5'-Tetrachlorobiphenyl (BZ-58)	NPW	MN	
CWP	EPA 1668A	2,3,3',5,5',6-Hexachlorobiphenyl (BZ-165)	NPW	MN	
CWP	EPA 1668A	2,3,3',5,5'-Pentachlorobiphenyl (BZ-111)	NPW	MN	
CWP	EPA 1668A	2,3,3',5,6-Pentachlorobiphenyl (BZ-112)	NPW	MN	
CWP	EPA 1668A	2,3,3',5-Tetrachlorobiphenyl (BZ-57)	NPW	MN	
CWP	EPA 1668A	2,3,4',5-Tetrachlorobiphenyl (BZ-63)	NPW	MN	
CWP	EPA 1668A	2,3,4',6-Tetrachlorobiphenyl (BZ-64)	NPW	MN	
CWP	EPA 1668A	2,3,4'-Trichlorobiphenyl (BZ-22)	NPW	MN	
CWP	EPA 1668A	2,3,4,4',5-Pentachlorobiphenyl (BZ-114)	NPW	MN	
CWP	EPA 1668A	2,3,4,4'-Tetrachlorobiphenyl (BZ-60)	NPW	MN	
CWP	EPA 1668A	2,3,5-Trichlorobiphenyl (BZ-23)	NPW	MN	
CWP	EPA 1668A	2,3,6-Trichlorobiphenyl (BZ-24)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1668A	2,3-Dichlorobiphenyl (BZ-5)	NPW	MN	
CWP	EPA 1668A	2,4',5-Trichlorobiphenyl (BZ-31)	NPW	MN	
CWP	EPA 1668A	2,4',6-Trichlorobiphenyl (BZ-32)	NPW	MN	
CWP	EPA 1668A	2,4'-Dichlorobiphenyl (BZ-8)	NPW	MN	
CWP	EPA 1668A	2,4-Dichlorobiphenyl (BZ-7)	NPW	MN	
CWP	EPA 1668A	2,5-Dichlorobiphenyl (BZ-9)	NPW	MN	
CWP	EPA 1668A	2,6-Dichlorobiphenyl (BZ-10)	NPW	MN	
CWP	EPA 1668A	2-Chlorobiphenyl (BZ-1)	NPW	MN	
CWP	EPA 1668A	3,3',4,4',5,5'-Hexachlorobiphenyl (BZ-169)	NPW	MN	
CWP	EPA 1668A	3,3',4,4',5-Pentachlorobiphenyl (BZ-126)	NPW	MN	
CWP	EPA 1668A	3,3',4,4'-Tetrachlorobiphenyl (BZ-77)	NPW	MN	
CWP	EPA 1668A	3,3',4,5'-Tetrachlorobiphenyl (BZ-79)	NPW	MN	
CWP	EPA 1668A	3,3',4,5,5'-Pentachlorobiphenyl (BZ-127)	NPW	MN	
CWP	EPA 1668A	3,3',4,5-Tetrachlorobiphenyl (BZ-78)	NPW	MN	
CWP	EPA 1668A	3,3',4-Trichlorobiphenyl (BZ-35)	NPW	MN	
CWP	EPA 1668A	3,3',5,5'-Tetrachlorobiphenyl (BZ-80)	NPW	MN	
CWP	EPA 1668A	3,3',5-Trichlorobiphenyl (BZ-36)	NPW	MN	
CWP	EPA 1668A	3,3'-Dichlorobiphenyl (BZ-11)	NPW	MN	
CWP	EPA 1668A	3,4',5-Trichlorobiphenyl (BZ-39)	NPW	MN	
CWP	EPA 1668A	3,4,4',5-Tetrachlorobiphenyl (BZ-81)	NPW	MN	
CWP	EPA 1668A	3,4,4'-Trichlorobiphenyl (BZ-37)	NPW	MN	
CWP	EPA 1668A	3,4,5-Trichlorobiphenyl (BZ-38)	NPW	MN	
CWP	EPA 1668A	3,5-Dichlorobiphenyl (BZ-14)	NPW	MN	
CWP	EPA 1668A	3-Chlorobiphenyl (BZ-2)	NPW	MN	
CWP	EPA 1668A	4,4'-Dichlorobiphenyl (BZ-15)	NPW	MN	
CWP	EPA 1668A	4-Chlorobiphenyl (BZ-3)	NPW	MN	
CWP	EPA 1668A	Decachlorobiphenyl (BZ-209)	NPW	MN	
CWP	EPA 1668A	PCB-(100/93/102/98)	NPW	MN	
CWP	EPA 1668A	PCB-(107/124)	NPW	MN	
CWP	EPA 1668A	PCB-(108/119/86/97/125/87)	NPW	MN	
CWP	EPA 1668A	PCB-(110/115)	NPW	MN	
CWP	EPA 1668A	PCB-(113/90/101)	NPW	MN	
CWP	EPA 1668A	PCB-(117/116/85)	NPW	MN	
CWP	EPA 1668A	PCB-(128/166)	NPW	MN	
CWP	EPA 1668A	PCB-(13/12)	NPW	MN	
CWP	EPA 1668A	PCB-(134/143)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 1668A	PCB-(138/163/129)	NPW	MN	
CWP	EPA 1668A	PCB-(139/140)	NPW	MN	
CWP	EPA 1668A	PCB-(147/149)	NPW	MN	
CWP	EPA 1668A	PCB-(151/135)	NPW	MN	
CWP	EPA 1668A	PCB-(153/168)	NPW	MN	
CWP	EPA 1668A	PCB-(156/157)	NPW	MN	
CWP	EPA 1668A	PCB-(171/173)	NPW	MN	
CWP	EPA 1668A	PCB-(180/193)	NPW	MN	
CWP	EPA 1668A	PCB-(183/185)	NPW	MN	
CWP	EPA 1668A	PCB-(197/200)	NPW	MN	
CWP	EPA 1668A	PCB-(198/199)	NPW	MN	
CWP	EPA 1668A	PCB-(21/33)	NPW	MN	
CWP	EPA 1668A	PCB-(26/29)	NPW	MN	
CWP	EPA 1668A	PCB-(28/20)	NPW	MN	
CWP	EPA 1668A	PCB-(30/18)	NPW	MN	
CWP	EPA 1668A	PCB-(41/40/71)	NPW	MN	
CWP	EPA 1668A	PCB-(44/47/65)	NPW	MN	
CWP	EPA 1668A	PCB-(45/51)	NPW	MN	
CWP	EPA 1668A	PCB-(50/53)	NPW	MN	
CWP	EPA 1668A	PCB-(59/62/75)	NPW	MN	
CWP	EPA 1668A	PCB-(61/70/74/76)	NPW	MN	
CWP	EPA 1668A	PCB-(69/49)	NPW	MN	
CWP	EPA 1668A	PCB-(73/43)	NPW	MN	
CWP	EPA 1668A	PCB-(88/91)	NPW	MN	

EPA 625

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, continuous liquid-liquid (LLE);

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 625	1,2,4-Trichlorobenzene	NPW	MN	
CWP	EPA 625	2,4,5-Trichlorophenol	NPW	MN	
CWP	EPA 625	2,4,6-Trichlorophenol	NPW	MN	
CWP	EPA 625	2,4-Dichlorophenol	NPW	MN	
CWP	EPA 625	2,4-Dimethylphenol	NPW	MN	
CWP	EPA 625	2,4-Dinitrophenol	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 625	2,4-Dinitrotoluene (2,4-DNT)	NPW	MN	
CWP	EPA 625	2,6-Dinitrotoluene (2,6-DNT)	NPW	MN	
CWP	EPA 625	2-Chloronaphthalene	NPW	MN	
CWP	EPA 625	2-Chlorophenol	NPW	MN	
CWP	EPA 625	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	NPW	MN	
CWP	EPA 625	2-Nitrophenol	NPW	MN	
CWP	EPA 625	3,3'-Dichlorobenzidine	NPW	MN	
CWP	EPA 625	4-Bromophenyl phenyl ether	NPW	MN	
CWP	EPA 625	4-Chloro-3-methylphenol	NPW	MN	
CWP	EPA 625	4-Chlorophenyl phenylether	NPW	MN	
CWP	EPA 625	4-Nitrophenol	NPW	MN	
CWP	EPA 625	Acenaphthene	NPW	MN	
CWP	EPA 625	Acenaphthylene	NPW	MN	
CWP	EPA 625	Anthracene	NPW	MN	
CWP	EPA 625	Benzidine	NPW	MN	
CWP	EPA 625	Benzo(a)anthracene	NPW	MN	
CWP	EPA 625	Benzo(a)pyrene	NPW	MN	
CWP	EPA 625	Benzo(g,h,i)perylene	NPW	MN	
CWP	EPA 625	Benzo(k)fluoranthene	NPW	MN	
CWP	EPA 625	Benzo[b]fluoranthene	NPW	MN	
CWP	EPA 625	bis(2-Chloroethoxy)methane	NPW	MN	
CWP	EPA 625	bis(2-Chloroethyl) ether	NPW	MN	
CWP	EPA 625	bis(2-Chloroisopropyl) ether	NPW	MN	
CWP	EPA 625	Butyl benzyl phthalate	NPW	MN	
CWP	EPA 625	Chrysene	NPW	MN	
CWP	EPA 625	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	NPW	MN	
CWP	EPA 625	Di-n-butyl phthalate	NPW	MN	
CWP	EPA 625	Di-n-octyl phthalate	NPW	MN	
CWP	EPA 625	Dibenz(a,h) anthracene	NPW	MN	
CWP	EPA 625	Diethyl phthalate	NPW	MN	
CWP	EPA 625	Dimethyl phthalate	NPW	MN	
CWP	EPA 625	Fluoranthene	NPW	MN	
CWP	EPA 625	Fluorene	NPW	MN	
CWP	EPA 625	Hexachlorobenzene	NPW	MN	
CWP	EPA 625	Hexachlorobutadiene	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 625	Hexachlorocyclopentadiene	NPW	MN	
CWP	EPA 625	Hexachloroethane	NPW	MN	
CWP	EPA 625	Indeno(1,2,3-cd) pyrene	NPW	MN	
CWP	EPA 625	Isophorone	NPW	MN	
CWP	EPA 625	n-Nitrosodi-n-propylamine	NPW	MN	
CWP	EPA 625	n-Nitrosodimethylamine	NPW	MN	
CWP	EPA 625	n-Nitrosodiphenylamine	NPW	MN	
CWP	EPA 625	Naphthalene	NPW	MN	
CWP	EPA 625	Nitrobenzene	NPW	MN	
CWP	EPA 625	Pentachlorophenol	NPW	MN	
CWP	EPA 625	Phenanthrene	NPW	MN	
CWP	EPA 625	Phenol	NPW	MN	
CWP	EPA 625	Pyrene	NPW	MN	

EPA 624

Preparation Techniques: Purge and trap;

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 624	1,1,1-Trichloroethane	NPW	MN	
CWP	EPA 624	1,1,2,2-Tetrachloroethane	NPW	MN	
CWP	EPA 624	1,1,2-Trichloroethane	NPW	MN	
CWP	EPA 624	1,1-Dichloroethane	NPW	MN	
CWP	EPA 624	1,1-Dichloroethylene	NPW	MN	
CWP	EPA 624	1,2,4-Trichlorobenzene	NPW	MN	
CWP	EPA 624	1,2-Dichlorobenzene	NPW	MN	
CWP	EPA 624	1,2-Dichloroethane (Ethylene dichloride)	NPW	MN	
CWP	EPA 624	1,2-Dichloropropane	NPW	MN	
CWP	EPA 624	1,3-Dichlorobenzene	NPW	MN	
CWP	EPA 624	1,4-Dichlorobenzene	NPW	MN	
CWP	EPA 624	2-Chloroethyl vinyl ether	NPW	MN	
CWP	EPA 624	Acrolein (Propenal)	NPW	MN	
CWP	EPA 624	Acrylonitrile	NPW	MN	
CWP	EPA 624	Benzene	NPW	MN	
CWP	EPA 624	Bromodichloromethane	NPW	MN	
CWP	EPA 624	Bromoform	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
CWP	EPA 624	Carbon tetrachloride	NPW	MN	
CWP	EPA 624	Chlorobenzene	NPW	MN	
CWP	EPA 624	Chlorodibromomethane	NPW	MN	
CWP	EPA 624	Chloroethane (Ethyl chloride)	NPW	MN	
CWP	EPA 624	Chloroform	NPW	MN	
CWP	EPA 624	cis-1,3-Dichloropropene	NPW	MN	
CWP	EPA 624	Ethylbenzene	NPW	MN	
CWP	EPA 624	Isopropylbenzene	NPW	MN	
CWP	EPA 624	Methyl bromide (Bromomethane)	NPW	MN	
CWP	EPA 624	Methyl chloride (Chloromethane)	NPW	MN	
CWP	EPA 624	Methylene chloride (Dichloromethane)	NPW	MN	
CWP	EPA 624	Tetrachloroethylene (Perchloroethylene)	NPW	MN	
CWP	EPA 624	Toluene	NPW	MN	
CWP	EPA 624	trans-1,2-Dichloroethylene	NPW	MN	
CWP	EPA 624	trans-1,3-Dichloropropylene	NPW	MN	
CWP	EPA 624	Trichloroethene (Trichloroethylene)	NPW	MN	
CWP	EPA 624	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	NPW	MN	
CWP	EPA 624	Vinyl chloride	NPW	MN	

Resource Conservation Recovery Program

MDA GD24 (Ag List 1)

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, microwave;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	MDA GD24 (Ag List 1)	Acetochlor	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Acetochlor	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Alachlor	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Alachlor	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Atrazine	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Atrazine	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Chlorpyrifos	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Chlorpyrifos	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Cyanazine	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Cyanazine	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	MDA GD24 (Ag List 1)	Deethyl atrazine (Desethyl atrazine)	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Deethyl atrazine (Desethyl atrazine)	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Deisopropyl atrazine	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Deisopropyl atrazine	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Dimetheneamid	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Dimetheneamid	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	EPTC (Eptam, s-ethyl-dipropyl thio carbamate)	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	EPTC (Eptam, s-ethyl-dipropyl thio carbamate)	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Ethalfluralin (Sonalan)	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Ethalfluralin (Sonalan)	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Fonophos (Fonofos)	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Fonophos (Fonofos)	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Metolachlor	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Metolachlor	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Metribuzin	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Metribuzin	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Pendimethalin\ (Penoxalin)	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Pendimethalin\ (Penoxalin)	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Phorate	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Phorate	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Prometon	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Prometon	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Propachlor (Ramrod)	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Propachlor (Ramrod)	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Propazine	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Propazine	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Simazine	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Simazine	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Terbufos	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Terbufos	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Triallate	SCM	MN	
RCRP	MDA GD24 (Ag List 1)	Triallate	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Trifluralin (Treflan)	NPW	MN	
RCRP	MDA GD24 (Ag List 1)	Trifluralin (Treflan)	SCM	MN	

MDA GD24 (Ag List 2)

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, microwave;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	MDA GD24 (Ag List 2)	2,4,5-T	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	2,4,5-T	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	2,4-D	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	2,4-D	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	2,4-DB	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	2,4-DB	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	Bentazon	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	Bentazon	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	Dicamba	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	Dicamba	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	Garlon (Triclopyr)	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	Garlon (Triclopyr)	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	MCPA	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	MCPA	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	Picloram	SCM	MN	
RCRP	MDA GD24 (Ag List 2)	Picloram	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	Silvex (2,4,5-TP)	NPW	MN	
RCRP	MDA GD24 (Ag List 2)	Silvex (2,4,5-TP)	SCM	MN	

EPA 9045D

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 9045D	pH	SCM	MN	

EPA 9056A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 9056A	Bromide	NPW	MN	
RCRP	EPA 9056A	Chloride	NPW	MN	
RCRP	EPA 9056A	Fluoride	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 9056A	Nitrate	NPW	MN	
RCRP	EPA 9056A	Nitrite	NPW	MN	
RCRP	EPA 9056A	Sulfate	NPW	MN	

EPA 9071B

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 9071B	n-Hexane Extractable Material (O&G)	SCM	MN	
RCRP	EPA 9071B	Oil & Grease	SCM	MN	

EPA 6010B

Preparation Techniques: Extraction, EPA 1312 SPLP, non-volatiles; Digestion, hotplate or HotBlock; Extraction, EPA 1311 TCLP, non-volatiles;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6010B	Aluminum	SCM	MN	
RCRP	EPA 6010B	Aluminum	NPW	MN	
RCRP	EPA 6010B	Antimony	NPW	MN	
RCRP	EPA 6010B	Antimony	SCM	MN	
RCRP	EPA 6010B	Arsenic	NPW	MN	
RCRP	EPA 6010B	Arsenic	SCM	MN	
RCRP	EPA 6010B	Barium	SCM	MN	
RCRP	EPA 6010B	Barium	NPW	MN	
RCRP	EPA 6010B	Beryllium	SCM	MN	
RCRP	EPA 6010B	Beryllium	NPW	MN	
RCRP	EPA 6010B	Boron	SCM	MN	
RCRP	EPA 6010B	Boron	NPW	MN	
RCRP	EPA 6010B	Cadmium	NPW	MN	
RCRP	EPA 6010B	Cadmium	SCM	MN	
RCRP	EPA 6010B	Calcium	NPW	MN	
RCRP	EPA 6010B	Calcium	SCM	MN	
RCRP	EPA 6010B	Chromium	SCM	MN	
RCRP	EPA 6010B	Cobalt	SCM	MN	
RCRP	EPA 6010B	Cobalt	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6010B	Copper	NPW	MN	
RCRP	EPA 6010B	Copper	SCM	MN	
RCRP	EPA 6010B	Iron	SCM	MN	
RCRP	EPA 6010B	Iron	NPW	MN	
RCRP	EPA 6010B	Lead	NPW	MN	
RCRP	EPA 6010B	Lead	SCM	MN	
RCRP	EPA 6010B	Magnesium	NPW	MN	
RCRP	EPA 6010B	Magnesium	SCM	MN	
RCRP	EPA 6010B	Manganese	NPW	MN	
RCRP	EPA 6010B	Manganese	SCM	MN	
RCRP	EPA 6010B	Molybdenum	NPW	MN	
RCRP	EPA 6010B	Molybdenum	SCM	MN	
RCRP	EPA 6010B	Nickel	NPW	MN	
RCRP	EPA 6010B	Nickel	SCM	MN	
RCRP	EPA 6010B	Potassium	SCM	MN	
RCRP	EPA 6010B	Potassium	NPW	MN	
RCRP	EPA 6010B	Selenium	SCM	MN	
RCRP	EPA 6010B	Selenium	NPW	MN	
RCRP	EPA 6010B	Silver	SCM	MN	
RCRP	EPA 6010B	Silver	NPW	MN	
RCRP	EPA 6010B	Sodium	NPW	MN	
RCRP	EPA 6010B	Sodium	SCM	MN	
RCRP	EPA 6010B	Thallium	NPW	MN	
RCRP	EPA 6010B	Thallium	SCM	MN	
RCRP	EPA 6010B	Tin	SCM	MN	
RCRP	EPA 6010B	Tin	NPW	MN	
RCRP	EPA 6010B	Titanium	SCM	MN	
RCRP	EPA 6010B	Titanium	NPW	MN	
RCRP	EPA 6010B	Total chromium	NPW	MN	
RCRP	EPA 6010B	Vanadium	SCM	MN	
RCRP	EPA 6010B	Vanadium	NPW	MN	
RCRP	EPA 6010B	Zinc	NPW	MN	
RCRP	EPA 6010B	Zinc	SCM	MN	

EPA 6010C

Preparation Techniques: Extraction, EPA 1312 SPLP, non-volatiles; Digestion, hotplate or HotBlock; Extraction, EPA 1311 TCLP, non-volatiles;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6010C	Aluminum	NPW	MN	
RCRP	EPA 6010C	Aluminum	SCM	MN	
RCRP	EPA 6010C	Antimony	NPW	MN	
RCRP	EPA 6010C	Antimony	SCM	MN	
RCRP	EPA 6010C	Arsenic	NPW	MN	
RCRP	EPA 6010C	Arsenic	SCM	MN	
RCRP	EPA 6010C	Barium	NPW	MN	
RCRP	EPA 6010C	Barium	SCM	MN	
RCRP	EPA 6010C	Beryllium	NPW	MN	
RCRP	EPA 6010C	Beryllium	SCM	MN	
RCRP	EPA 6010C	Boron	SCM	MN	
RCRP	EPA 6010C	Boron	NPW	MN	
RCRP	EPA 6010C	Cadmium	NPW	MN	
RCRP	EPA 6010C	Cadmium	SCM	MN	
RCRP	EPA 6010C	Calcium	SCM	MN	
RCRP	EPA 6010C	Calcium	NPW	MN	
RCRP	EPA 6010C	Chromium	SCM	MN	
RCRP	EPA 6010C	Chromium	NPW	MN	
RCRP	EPA 6010C	Cobalt	NPW	MN	
RCRP	EPA 6010C	Cobalt	SCM	MN	
RCRP	EPA 6010C	Copper	SCM	MN	
RCRP	EPA 6010C	Copper	NPW	MN	
RCRP	EPA 6010C	Iron	NPW	MN	
RCRP	EPA 6010C	Iron	SCM	MN	
RCRP	EPA 6010C	Lead	SCM	MN	
RCRP	EPA 6010C	Lead	NPW	MN	
RCRP	EPA 6010C	Magnesium	SCM	MN	
RCRP	EPA 6010C	Magnesium	NPW	MN	
RCRP	EPA 6010C	Manganese	SCM	MN	
RCRP	EPA 6010C	Manganese	NPW	MN	
RCRP	EPA 6010C	Molybdenum	NPW	MN	
RCRP	EPA 6010C	Molybdenum	SCM	MN	
RCRP	EPA 6010C	Nickel	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6010C	Nickel	SCM	MN	
RCRP	EPA 6010C	Potassium	SCM	MN	
RCRP	EPA 6010C	Potassium	NPW	MN	
RCRP	EPA 6010C	Selenium	SCM	MN	
RCRP	EPA 6010C	Selenium	NPW	MN	
RCRP	EPA 6010C	Silver	NPW	MN	
RCRP	EPA 6010C	Silver	SCM	MN	
RCRP	EPA 6010C	Sodium	NPW	MN	
RCRP	EPA 6010C	Sodium	SCM	MN	
RCRP	EPA 6010C	Thallium	NPW	MN	
RCRP	EPA 6010C	Thallium	SCM	MN	
RCRP	EPA 6010C	Tin	SCM	MN	
RCRP	EPA 6010C	Tin	NPW	MN	
RCRP	EPA 6010C	Titanium	SCM	MN	
RCRP	EPA 6010C	Titanium	NPW	MN	
RCRP	EPA 6010C	Vanadium	NPW	MN	
RCRP	EPA 6010C	Vanadium	SCM	MN	
RCRP	EPA 6010C	Zinc	SCM	MN	
RCRP	EPA 6010C	Zinc	NPW	MN	

EPA 6020

Preparation Techniques: Extraction, EPA 1312 SPLP, non-volatiles; Digestion, hotplate or HotBlock; Extraction, EPA 1311 TCLP, non-volatiles;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6020	Aluminum	SCM	MN	
RCRP	EPA 6020	Aluminum	NPW	MN	
RCRP	EPA 6020	Antimony	SCM	MN	
RCRP	EPA 6020	Antimony	NPW	MN	
RCRP	EPA 6020	Arsenic	SCM	MN	
RCRP	EPA 6020	Arsenic	NPW	MN	
RCRP	EPA 6020	Barium	NPW	MN	
RCRP	EPA 6020	Barium	SCM	MN	
RCRP	EPA 6020	Beryllium	SCM	MN	
RCRP	EPA 6020	Beryllium	NPW	MN	
RCRP	EPA 6020	Bismuth	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6020	Bismuth	SCM	MN	
RCRP	EPA 6020	Boron	NPW	MN	
RCRP	EPA 6020	Boron	SCM	MN	
RCRP	EPA 6020	Cadmium	NPW	MN	
RCRP	EPA 6020	Cadmium	SCM	MN	
RCRP	EPA 6020	Calcium	NPW	MN	
RCRP	EPA 6020	Calcium	SCM	MN	
RCRP	EPA 6020	Chromium	SCM	MN	
RCRP	EPA 6020	Chromium	NPW	MN	
RCRP	EPA 6020	Cobalt	NPW	MN	
RCRP	EPA 6020	Cobalt	SCM	MN	
RCRP	EPA 6020	Copper	SCM	MN	
RCRP	EPA 6020	Copper	NPW	MN	
RCRP	EPA 6020	Iron	NPW	MN	
RCRP	EPA 6020	Iron	SCM	MN	
RCRP	EPA 6020	Lead	SCM	MN	
RCRP	EPA 6020	Lead	NPW	MN	
RCRP	EPA 6020	Lithium	SCM	MN	
RCRP	EPA 6020	Lithium	NPW	MN	
RCRP	EPA 6020	Magnesium	NPW	MN	
RCRP	EPA 6020	Magnesium	SCM	MN	
RCRP	EPA 6020	Manganese	NPW	MN	
RCRP	EPA 6020	Manganese	SCM	MN	
RCRP	EPA 6020	Molybdenum	SCM	MN	
RCRP	EPA 6020	Molybdenum	NPW	MN	
RCRP	EPA 6020	Nickel	SCM	MN	
RCRP	EPA 6020	Nickel	NPW	MN	
RCRP	EPA 6020	Palladium	NPW	MN	
RCRP	EPA 6020	Platinum	NPW	MN	
RCRP	EPA 6020	Potassium	NPW	MN	
RCRP	EPA 6020	Potassium	SCM	MN	
RCRP	EPA 6020	Selenium	NPW	MN	
RCRP	EPA 6020	Selenium	SCM	MN	
RCRP	EPA 6020	Silicon	SCM	MN	
RCRP	EPA 6020	Silicon	NPW	MN	
RCRP	EPA 6020	Silver	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6020	Silver	SCM	MN	
RCRP	EPA 6020	Sodium	NPW	MN	
RCRP	EPA 6020	Sodium	SCM	MN	
RCRP	EPA 6020	Strontium	NPW	MN	
RCRP	EPA 6020	Strontium	SCM	MN	
RCRP	EPA 6020	Thallium	NPW	MN	
RCRP	EPA 6020	Thallium	SCM	MN	
RCRP	EPA 6020	Tin	SCM	MN	
RCRP	EPA 6020	Tin	NPW	MN	
RCRP	EPA 6020	Titanium	NPW	MN	
RCRP	EPA 6020	Titanium	SCM	MN	
RCRP	EPA 6020	Total chromium	NPW	MN	
RCRP	EPA 6020	Uranium	SCM	MN	
RCRP	EPA 6020	Uranium	NPW	MN	
RCRP	EPA 6020	Vanadium	SCM	MN	
RCRP	EPA 6020	Vanadium	NPW	MN	
RCRP	EPA 6020	Zinc	SCM	MN	
RCRP	EPA 6020	Zinc	NPW	MN	

EPA 6020A

Preparation Techniques: Extraction, EPA 1312 SPLP, non-volatiles; Digestion, hotplate or HotBlock; Extraction, EPA 1311 TCLP, non-volatiles;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6020A	Aluminum	NPW	MN	
RCRP	EPA 6020A	Aluminum	SCM	MN	
RCRP	EPA 6020A	Antimony	SCM	MN	
RCRP	EPA 6020A	Antimony	NPW	MN	
RCRP	EPA 6020A	Arsenic	NPW	MN	
RCRP	EPA 6020A	Arsenic	SCM	MN	
RCRP	EPA 6020A	Barium	SCM	MN	
RCRP	EPA 6020A	Barium	NPW	MN	
RCRP	EPA 6020A	Beryllium	NPW	MN	
RCRP	EPA 6020A	Beryllium	SCM	MN	
RCRP	EPA 6020A	Bismuth	NPW	MN	
RCRP	EPA 6020A	Bismuth	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6020A	Boron	NPW	MN	
RCRP	EPA 6020A	Boron	SCM	MN	
RCRP	EPA 6020A	Cadmium	SCM	MN	
RCRP	EPA 6020A	Cadmium	NPW	MN	
RCRP	EPA 6020A	Calcium	NPW	MN	
RCRP	EPA 6020A	Calcium	SCM	MN	
RCRP	EPA 6020A	Chromium	NPW	MN	
RCRP	EPA 6020A	Chromium	SCM	MN	
RCRP	EPA 6020A	Cobalt	SCM	MN	
RCRP	EPA 6020A	Cobalt	NPW	MN	
RCRP	EPA 6020A	Copper	SCM	MN	
RCRP	EPA 6020A	Copper	NPW	MN	
RCRP	EPA 6020A	Iron	SCM	MN	
RCRP	EPA 6020A	Iron	NPW	MN	
RCRP	EPA 6020A	Lead	NPW	MN	
RCRP	EPA 6020A	Lead	SCM	MN	
RCRP	EPA 6020A	Lithium	SCM	MN	
RCRP	EPA 6020A	Lithium	NPW	MN	
RCRP	EPA 6020A	Magnesium	NPW	MN	
RCRP	EPA 6020A	Magnesium	SCM	MN	
RCRP	EPA 6020A	Manganese	NPW	MN	
RCRP	EPA 6020A	Manganese	SCM	MN	
RCRP	EPA 6020A	Molybdenum	NPW	MN	
RCRP	EPA 6020A	Molybdenum	SCM	MN	
RCRP	EPA 6020A	Nickel	NPW	MN	
RCRP	EPA 6020A	Nickel	SCM	MN	
RCRP	EPA 6020A	Palladium	NPW	MN	
RCRP	EPA 6020A	Platinum	NPW	MN	
RCRP	EPA 6020A	Potassium	SCM	MN	
RCRP	EPA 6020A	Potassium	NPW	MN	
RCRP	EPA 6020A	Selenium	SCM	MN	
RCRP	EPA 6020A	Selenium	NPW	MN	
RCRP	EPA 6020A	Silicon	NPW	MN	
RCRP	EPA 6020A	Silicon	SCM	MN	
RCRP	EPA 6020A	Silver	NPW	MN	
RCRP	EPA 6020A	Silver	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 6020A	Sodium	SCM	MN	
RCRP	EPA 6020A	Sodium	NPW	MN	
RCRP	EPA 6020A	Strontium	NPW	MN	
RCRP	EPA 6020A	Strontium	SCM	MN	
RCRP	EPA 6020A	Thallium	NPW	MN	
RCRP	EPA 6020A	Thallium	SCM	MN	
RCRP	EPA 6020A	Tin	SCM	MN	
RCRP	EPA 6020A	Tin	NPW	MN	
RCRP	EPA 6020A	Titanium	NPW	MN	
RCRP	EPA 6020A	Titanium	SCM	MN	
RCRP	EPA 6020A	Uranium	NPW	MN	
RCRP	EPA 6020A	Uranium	SCM	MN	
RCRP	EPA 6020A	Vanadium	SCM	MN	
RCRP	EPA 6020A	Vanadium	NPW	MN	
RCRP	EPA 6020A	Zinc	SCM	MN	
RCRP	EPA 6020A	Zinc	NPW	MN	

EPA 7470A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 7470A	Mercury	NPW	MN	

EPA 7471A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 7471A	Mercury	SCM	MN	

EPA 7471B

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 7471B	Mercury	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 7471B	Mercury	NPW	MN	User Defined S-MN-I-490 Rev. 00

EPA 1613B

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, solid phase (SPE); Extraction, automated soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	SCM	MN	
RCRP	EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	SCM	MN	
RCRP	EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	SCM	MN	
RCRP	EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	SCM	MN	
RCRP	EPA 1613B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	SCM	MN	
RCRP	EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 1613B	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	SCM	MN	
RCRP	EPA 1613B	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	SCM	MN	
RCRP	EPA 1613B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	TISSUE	MN	
RCRP	EPA 1613B	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	SCM	MN	
RCRP	EPA 1613B	2,3,4,6,7,8-Hexachlorodibenzofuran	SCM	MN	
RCRP	EPA 1613B	2,3,4,6,7,8-Hexachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 1613B	2,3,4,7,8-Pentachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 1613B	2,3,4,7,8-Pentachlorodibenzofuran	SCM	MN	
RCRP	EPA 1613B	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	SCM	MN	
RCRP	EPA 1613B	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	TISSUE	MN	
RCRP	EPA 1613B	2,3,7,8-Tetrachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 1613B	2,3,7,8-Tetrachlorodibenzofuran	SCM	MN	
RCRP	EPA 1613B	Total HpCDD	TISSUE	MN	
RCRP	EPA 1613B	Total HpCDD	SCM	MN	
RCRP	EPA 1613B	Total HpCDF	TISSUE	MN	
RCRP	EPA 1613B	Total HpCDF	SCM	MN	
RCRP	EPA 1613B	Total HxCDD	TISSUE	MN	
RCRP	EPA 1613B	Total HxCDD	SCM	MN	
RCRP	EPA 1613B	Total HxCDF	TISSUE	MN	
RCRP	EPA 1613B	Total HxCDF	SCM	MN	
RCRP	EPA 1613B	Total PeCDD	SCM	MN	
RCRP	EPA 1613B	Total PeCDD	TISSUE	MN	
RCRP	EPA 1613B	Total PeCDF	TISSUE	MN	
RCRP	EPA 1613B	Total PeCDF	SCM	MN	
RCRP	EPA 1613B	Total TCDD	SCM	MN	
RCRP	EPA 1613B	Total TCDD	TISSUE	MN	
RCRP	EPA 1613B	Total TCDF	SCM	MN	
RCRP	EPA 1613B	Total TCDF	TISSUE	MN	

EPA 1668A

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ-206)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (BZ-206)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (BZ-194)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (BZ-194)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,6'-Octachlorobiphenyl (BZ-196)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,6'-Octachlorobiphenyl (BZ-196)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (BZ-207)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (BZ-207)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ-195)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5,6-Octachlorobiphenyl (BZ-195)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ-170)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,4',5-Heptachlorobiphenyl (BZ-170)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,5',6'-Heptachlorobiphenyl (BZ-177)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,5',6'-Heptachlorobiphenyl (BZ-177)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ-201)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ-201)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,5',6-Heptachlorobiphenyl (BZ-175)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,5',6-Heptachlorobiphenyl (BZ-175)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,5'-Hexachlorobiphenyl (BZ-130)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,5'-Hexachlorobiphenyl (BZ-130)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ-208)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (BZ-208)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,5,5'-Heptachlorobiphenyl (BZ-172)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,2',3,3',4,5,5'-Heptachlorobiphenyl (BZ-172)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,5,6'-Heptachlorobiphenyl (BZ-174)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,5,6'-Heptachlorobiphenyl (BZ-174)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,6'-Hexachlorobiphenyl (BZ-132)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,6'-Hexachlorobiphenyl (BZ-132)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,6,6'-Heptachlorobiphenyl (BZ-176)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,6,6'-Heptachlorobiphenyl (BZ-176)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4,6-Hexachlorobiphenyl (BZ-131)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',4,6-Hexachlorobiphenyl (BZ-131)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4-Pentachlorobiphenyl (BZ-82)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',4-Pentachlorobiphenyl (BZ-82)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ-202)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',5,5',6,6'-Octachlorobiphenyl (BZ-202)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',5,5',6-Heptachlorobiphenyl (BZ-178)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',5,5',6-Heptachlorobiphenyl (BZ-178)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',5,5'-Hexachlorobiphenyl (BZ-133)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',5,5'-Hexachlorobiphenyl (BZ-133)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',5,6,6'-Heptachlorobiphenyl (BZ-179)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',5,6,6'-Heptachlorobiphenyl (BZ-179)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',5-Pentachlorobiphenyl (BZ-83)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',5-Pentachlorobiphenyl (BZ-83)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',6,6'-Hexachlorobiphenyl (BZ-136)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',6,6'-Hexachlorobiphenyl (BZ-136)	SCM	MN	
RCRP	EPA 1668A	2,2',3,3',6-Pentachlorobiphenyl (BZ-84)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,3',6-Pentachlorobiphenyl (BZ-84)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4',5,5'-Hexachlorobiphenyl (BZ-146)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4',5,5'-Hexachlorobiphenyl (BZ-146)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,2',3,4',5,6'-Hexachlorobiphenyl (BZ-148)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4',5,6'-Hexachlorobiphenyl (BZ-148)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ-188)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4',5,6,6'-Heptachlorobiphenyl (BZ-188)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4',6,6'-Hexachlorobiphenyl (BZ-150)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4',6,6'-Hexachlorobiphenyl (BZ-150)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4'-Tetrachlorobiphenyl (BZ-42)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4'-Tetrachlorobiphenyl (BZ-42)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,5',6-Octachlorobiphenyl (BZ-203)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,5',6-Octachlorobiphenyl (BZ-203)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ-182)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,6'-Heptachlorobiphenyl (BZ-182)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,6,6'-Octachlorobiphenyl (BZ-204)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,6,6'-Octachlorobiphenyl (BZ-204)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,6-Heptachlorobiphenyl (BZ-181)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,4',5,6-Heptachlorobiphenyl (BZ-181)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,4',5-Hexachlorobiphenyl (BZ-137)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,4',5-Hexachlorobiphenyl (BZ-137)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,4',6,6'-Heptachlorobiphenyl (BZ-184)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,4',6,6'-Heptachlorobiphenyl (BZ-184)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,5',6-Hexachlorobiphenyl (BZ-144)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,5',6-Hexachlorobiphenyl (BZ-144)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,5,5'-Hexachlorobiphenyl (BZ-141)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,5,5'-Hexachlorobiphenyl (BZ-141)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,5,6,6'-Heptachlorobiphenyl (BZ-186)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,2',3,4,5,6,6'-Heptachlorobiphenyl (BZ-186)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,5,6-Hexachlorobiphenyl (BZ-142)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,5,6-Hexachlorobiphenyl (BZ-142)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,6'-Pentachlorobiphenyl (BZ-89)	SCM	MN	
RCRP	EPA 1668A	2,2',3,4,6'-Pentachlorobiphenyl (BZ-89)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,6,6'-Hexachlorobiphenyl (BZ-145)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,4,6,6'-Hexachlorobiphenyl (BZ-145)	SCM	MN	
RCRP	EPA 1668A	2,2',3,5',6-Pentachlorobiphenyl (BZ-95)	SCM	MN	
RCRP	EPA 1668A	2,2',3,5',6-Pentachlorobiphenyl (BZ-95)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,5,5'-Pentachlorobiphenyl (BZ-92)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,5,5'-Pentachlorobiphenyl (BZ-92)	SCM	MN	
RCRP	EPA 1668A	2,2',3,5,6'-Pentachlorobiphenyl (BZ-94)	SCM	MN	
RCRP	EPA 1668A	2,2',3,5,6'-Pentachlorobiphenyl (BZ-94)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,5,6,6'-Hexachlorobiphenyl (BZ-152)	SCM	MN	
RCRP	EPA 1668A	2,2',3,5,6,6'-Hexachlorobiphenyl (BZ-152)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,6'-Tetrachlorobiphenyl (BZ-46)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,6'-Tetrachlorobiphenyl (BZ-46)	SCM	MN	
RCRP	EPA 1668A	2,2',3,6,6'-Pentachlorobiphenyl (BZ-96)	TISSUE	MN	
RCRP	EPA 1668A	2,2',3,6,6'-Pentachlorobiphenyl (BZ-96)	SCM	MN	
RCRP	EPA 1668A	2,2',3-Trichlorobiphenyl (BZ-16)	SCM	MN	
RCRP	EPA 1668A	2,2',3-Trichlorobiphenyl (BZ-16)	TISSUE	MN	
RCRP	EPA 1668A	2,2',4,4',5,6'-Hexachlorobiphenyl (BZ-154)	SCM	MN	
RCRP	EPA 1668A	2,2',4,4',5,6'-Hexachlorobiphenyl (BZ-154)	TISSUE	MN	
RCRP	EPA 1668A	2,2',4,4',5-Pentachlorobiphenyl (BZ-99)	SCM	MN	
RCRP	EPA 1668A	2,2',4,4',5-Pentachlorobiphenyl (BZ-99)	TISSUE	MN	
RCRP	EPA 1668A	2,2',4,4',6,6'-Hexachlorobiphenyl (BZ-155)	SCM	MN	
RCRP	EPA 1668A	2,2',4,4',6,6'-Hexachlorobiphenyl (BZ-155)	TISSUE	MN	
RCRP	EPA 1668A	2,2',4,5',6-Pentachlorobiphenyl (BZ-103)	TISSUE	MN	
RCRP	EPA 1668A	2,2',4,5',6-Pentachlorobiphenyl (BZ-103)	SCM	MN	
RCRP	EPA 1668A	2,2',4,5-Tetrachlorobiphenyl (BZ-48)	SCM	MN	
RCRP	EPA 1668A	2,2',4,5-Tetrachlorobiphenyl (BZ-48)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,2',4,6,6'-Pentachlorobiphenyl (BZ-104)	SCM	MN	
RCRP	EPA 1668A	2,2',4,6,6'-Pentachlorobiphenyl (BZ-104)	TISSUE	MN	
RCRP	EPA 1668A	2,2',4-Trichlorobiphenyl (BZ-17)	TISSUE	MN	
RCRP	EPA 1668A	2,2',4-Trichlorobiphenyl (BZ-17)	SCM	MN	
RCRP	EPA 1668A	2,2',5,5'-Tetrachlorobiphenyl (BZ-52)	SCM	MN	
RCRP	EPA 1668A	2,2',5,5'-Tetrachlorobiphenyl (BZ-52)	TISSUE	MN	
RCRP	EPA 1668A	2,2',6,6'-Tetrachlorobiphenyl (BZ-54)	TISSUE	MN	
RCRP	EPA 1668A	2,2',6,6'-Tetrachlorobiphenyl (BZ-54)	SCM	MN	
RCRP	EPA 1668A	2,2',6-Trichlorobiphenyl (BZ-19)	SCM	MN	
RCRP	EPA 1668A	2,2',6-Trichlorobiphenyl (BZ-19)	TISSUE	MN	
RCRP	EPA 1668A	2,2'-Dichlorobiphenyl (BZ-4)	SCM	MN	
RCRP	EPA 1668A	2,2'-Dichlorobiphenyl (BZ-4)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,4',5'-Pentachlorobiphenyl (BZ-123)	SCM	MN	
RCRP	EPA 1668A	2,3',4,4',5'-Pentachlorobiphenyl (BZ-123)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,4',5'-Pentachlorobiphenyl (BZ-123)	NPW	MN	
RCRP	EPA 1668A	2,3',4,4',5,5'-Hexachlorobiphenyl (BZ-167)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,4',5,5'-Hexachlorobiphenyl (BZ-167)	SCM	MN	
RCRP	EPA 1668A	2,3',4,4',5,5'-Hexachlorobiphenyl (BZ-167)	NPW	MN	
RCRP	EPA 1668A	2,3',4,4',5-Pentachlorobiphenyl (BZ-118)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,4',5-Pentachlorobiphenyl (BZ-118)	SCM	MN	
RCRP	EPA 1668A	2,3',4,4',5-Pentachlorobiphenyl (BZ-118)	NPW	MN	
RCRP	EPA 1668A	2,3',4,4'-Tetrachlorobiphenyl (BZ-66)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,4'-Tetrachlorobiphenyl (BZ-66)	SCM	MN	
RCRP	EPA 1668A	2,3',4,5',6-Pentachlorobiphenyl (BZ-121)	SCM	MN	
RCRP	EPA 1668A	2,3',4,5',6-Pentachlorobiphenyl (BZ-121)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,5'-Tetrachlorobiphenyl (BZ-68)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,5'-Tetrachlorobiphenyl (BZ-68)	SCM	MN	
RCRP	EPA 1668A	2,3',4,5,5'-Pentachlorobiphenyl (BZ-120)	SCM	MN	
RCRP	EPA 1668A	2,3',4,5,5'-Pentachlorobiphenyl (BZ-120)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,5-Tetrachlorobiphenyl (BZ-67)	TISSUE	MN	
RCRP	EPA 1668A	2,3',4,5-Tetrachlorobiphenyl (BZ-67)	SCM	MN	
RCRP	EPA 1668A	2,3',4-Trichlorobiphenyl (BZ-25)	SCM	MN	
RCRP	EPA 1668A	2,3',4-Trichlorobiphenyl (BZ-25)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,3',5'-Trichlorobiphenyl (BZ-34)	TISSUE	MN	
RCRP	EPA 1668A	2,3',5'-Trichlorobiphenyl (BZ-34)	SCM	MN	
RCRP	EPA 1668A	2,3',5,5'-Tetrachlorobiphenyl (BZ-72)	TISSUE	MN	
RCRP	EPA 1668A	2,3',5,5'-Tetrachlorobiphenyl (BZ-72)	SCM	MN	
RCRP	EPA 1668A	2,3',6-Trichlorobiphenyl (BZ-27)	TISSUE	MN	
RCRP	EPA 1668A	2,3',6-Trichlorobiphenyl (BZ-27)	SCM	MN	
RCRP	EPA 1668A	2,3'-Dichlorobiphenyl (BZ-6)	SCM	MN	
RCRP	EPA 1668A	2,3'-Dichlorobiphenyl (BZ-6)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4',5',6-Hexachlorobiphenyl (BZ-164)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4',5',6-Hexachlorobiphenyl (BZ-164)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4',5'-Pentachlorobiphenyl (BZ-122)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4',5'-Pentachlorobiphenyl (BZ-122)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4',5,5'-Hexachlorobiphenyl (BZ-162)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4',5,5'-Hexachlorobiphenyl (BZ-162)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4'-Tetrachlorobiphenyl (BZ-56)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4'-Tetrachlorobiphenyl (BZ-56)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,4',5',6-Heptachlorobiphenyl (BZ-191)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,4',5',6-Heptachlorobiphenyl (BZ-191)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,4',5'-Hexachlorobiphenyl (BZ-157)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,4',5'-Hexachlorobiphenyl (BZ-157)	NPW	MN	
RCRP	EPA 1668A	2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ-205)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,4',5,5',6-Octachlorobiphenyl (BZ-205)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ-189)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ-189)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,4',5,5'-Heptachlorobiphenyl (BZ-189)	NPW	MN	
RCRP	EPA 1668A	2,3,3',4,4',5,6-Heptachlorobiphenyl (BZ-190)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,4',5,6-Heptachlorobiphenyl (BZ-190)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,4',5-Hexachlorobiphenyl (BZ-156)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,3,3',4,4',5-Hexachlorobiphenyl (BZ-156)	NPW	MN	
RCRP	EPA 1668A	2,3,3',4,4',6-Hexachlorobiphenyl (BZ-158)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,4',6-Hexachlorobiphenyl (BZ-158)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,4'-Pentachlorobiphenyl (BZ-105)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,4'-Pentachlorobiphenyl (BZ-105)	NPW	MN	
RCRP	EPA 1668A	2,3,3',4,4'-Pentachlorobiphenyl (BZ-105)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,5',6-Hexachlorobiphenyl (BZ-161)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,5',6-Hexachlorobiphenyl (BZ-161)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,5,5',6-Heptachlorobiphenyl (BZ-192)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,5,5',6-Heptachlorobiphenyl (BZ-192)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,5,5'-Hexachlorobiphenyl (BZ-159)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,5,5'-Hexachlorobiphenyl (BZ-159)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,5,6-Hexachlorobiphenyl (BZ-160)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,5,6-Hexachlorobiphenyl (BZ-160)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,5-Pentachlorobiphenyl (BZ-106)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4,5-Pentachlorobiphenyl (BZ-106)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,6-Pentachlorobiphenyl (BZ-109)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',4,6-Pentachlorobiphenyl (BZ-109)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4-Tetrachlorobiphenyl (BZ-55)	SCM	MN	
RCRP	EPA 1668A	2,3,3',4-Tetrachlorobiphenyl (BZ-55)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',5'-Tetrachlorobiphenyl (BZ-58)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',5'-Tetrachlorobiphenyl (BZ-58)	SCM	MN	
RCRP	EPA 1668A	2,3,3',5,5',6-Hexachlorobiphenyl (BZ-165)	SCM	MN	
RCRP	EPA 1668A	2,3,3',5,5',6-Hexachlorobiphenyl (BZ-165)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',5,5'-Pentachlorobiphenyl (BZ-111)	SCM	MN	
RCRP	EPA 1668A	2,3,3',5,5'-Pentachlorobiphenyl (BZ-111)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',5,6-Pentachlorobiphenyl (BZ-112)	SCM	MN	
RCRP	EPA 1668A	2,3,3',5,6-Pentachlorobiphenyl (BZ-112)	TISSUE	MN	
RCRP	EPA 1668A	2,3,3',5-Tetrachlorobiphenyl (BZ-57)	SCM	MN	
RCRP	EPA 1668A	2,3,3',5-Tetrachlorobiphenyl (BZ-57)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	2,3,4',5-Tetrachlorobiphenyl (BZ-63)	SCM	MN	
RCRP	EPA 1668A	2,3,4',5-Tetrachlorobiphenyl (BZ-63)	TISSUE	MN	
RCRP	EPA 1668A	2,3,4',6-Tetrachlorobiphenyl (BZ-64)	TISSUE	MN	
RCRP	EPA 1668A	2,3,4',6-Tetrachlorobiphenyl (BZ-64)	SCM	MN	
RCRP	EPA 1668A	2,3,4'-Trichlorobiphenyl (BZ-22)	TISSUE	MN	
RCRP	EPA 1668A	2,3,4'-Trichlorobiphenyl (BZ-22)	SCM	MN	
RCRP	EPA 1668A	2,3,4,4',5-Pentachlorobiphenyl (BZ-114)	NPW	MN	
RCRP	EPA 1668A	2,3,4,4',5-Pentachlorobiphenyl (BZ-114)	SCM	MN	
RCRP	EPA 1668A	2,3,4,4',5-Pentachlorobiphenyl (BZ-114)	TISSUE	MN	
RCRP	EPA 1668A	2,3,4,4'-Tetrachlorobiphenyl (BZ-60)	SCM	MN	
RCRP	EPA 1668A	2,3,4,4'-Tetrachlorobiphenyl (BZ-60)	TISSUE	MN	
RCRP	EPA 1668A	2,3,5-Trichlorobiphenyl (BZ-23)	SCM	MN	
RCRP	EPA 1668A	2,3,5-Trichlorobiphenyl (BZ-23)	TISSUE	MN	
RCRP	EPA 1668A	2,3,6-Trichlorobiphenyl (BZ-24)	TISSUE	MN	
RCRP	EPA 1668A	2,3,6-Trichlorobiphenyl (BZ-24)	SCM	MN	
RCRP	EPA 1668A	2,3-Dichlorobiphenyl (BZ-5)	SCM	MN	
RCRP	EPA 1668A	2,3-Dichlorobiphenyl (BZ-5)	TISSUE	MN	
RCRP	EPA 1668A	2,4',5-Trichlorobiphenyl (BZ-31)	SCM	MN	
RCRP	EPA 1668A	2,4',5-Trichlorobiphenyl (BZ-31)	TISSUE	MN	
RCRP	EPA 1668A	2,4',6-Trichlorobiphenyl (BZ-32)	TISSUE	MN	
RCRP	EPA 1668A	2,4',6-Trichlorobiphenyl (BZ-32)	SCM	MN	
RCRP	EPA 1668A	2,4'-Dichlorobiphenyl (BZ-8)	TISSUE	MN	
RCRP	EPA 1668A	2,4'-Dichlorobiphenyl (BZ-8)	SCM	MN	
RCRP	EPA 1668A	2,4-Dichlorobiphenyl (BZ-7)	SCM	MN	
RCRP	EPA 1668A	2,4-Dichlorobiphenyl (BZ-7)	TISSUE	MN	
RCRP	EPA 1668A	2,5-Dichlorobiphenyl (BZ-9)	SCM	MN	
RCRP	EPA 1668A	2,5-Dichlorobiphenyl (BZ-9)	TISSUE	MN	
RCRP	EPA 1668A	2,6-Dichlorobiphenyl (BZ-10)	TISSUE	MN	
RCRP	EPA 1668A	2,6-Dichlorobiphenyl (BZ-10)	SCM	MN	
RCRP	EPA 1668A	2-Chlorobiphenyl (BZ-1)	SCM	MN	
RCRP	EPA 1668A	2-Chlorobiphenyl (BZ-1)	TISSUE	MN	
RCRP	EPA 1668A	3,3',4,4',5,5'-Hexachlorobiphenyl (BZ-169)	TISSUE	MN	
RCRP	EPA 1668A	3,3',4,4',5,5'-Hexachlorobiphenyl (BZ-169)	SCM	MN	
RCRP	EPA 1668A	3,3',4,4',5,5'-Hexachlorobiphenyl (BZ-169)	NPW	MN	
RCRP	EPA 1668A	3,3',4,4',5-Pentachlorobiphenyl (BZ-126)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	3,3',4,4',5-Pentachlorobiphenyl (BZ-126)	NPW	MN	
RCRP	EPA 1668A	3,3',4,4',5-Pentachlorobiphenyl (BZ-126)	SCM	MN	
RCRP	EPA 1668A	3,3',4,4'-Tetrachlorobiphenyl (BZ-77)	SCM	MN	
RCRP	EPA 1668A	3,3',4,4'-Tetrachlorobiphenyl (BZ-77)	NPW	MN	
RCRP	EPA 1668A	3,3',4,4'-Tetrachlorobiphenyl (BZ-77)	TISSUE	MN	
RCRP	EPA 1668A	3,3',4,5'-Tetrachlorobiphenyl (BZ-79)	SCM	MN	
RCRP	EPA 1668A	3,3',4,5'-Tetrachlorobiphenyl (BZ-79)	TISSUE	MN	
RCRP	EPA 1668A	3,3',4,5,5'-Pentachlorobiphenyl (BZ-127)	SCM	MN	
RCRP	EPA 1668A	3,3',4,5,5'-Pentachlorobiphenyl (BZ-127)	TISSUE	MN	
RCRP	EPA 1668A	3,3',4,5-Tetrachlorobiphenyl (BZ-78)	SCM	MN	
RCRP	EPA 1668A	3,3',4,5-Tetrachlorobiphenyl (BZ-78)	TISSUE	MN	
RCRP	EPA 1668A	3,3',4-Trichlorobiphenyl (BZ-35)	SCM	MN	
RCRP	EPA 1668A	3,3',4-Trichlorobiphenyl (BZ-35)	TISSUE	MN	
RCRP	EPA 1668A	3,3',5,5'-Tetrachlorobiphenyl (BZ-80)	TISSUE	MN	
RCRP	EPA 1668A	3,3',5,5'-Tetrachlorobiphenyl (BZ-80)	SCM	MN	
RCRP	EPA 1668A	3,3',5-Trichlorobiphenyl (BZ-36)	SCM	MN	
RCRP	EPA 1668A	3,3',5-Trichlorobiphenyl (BZ-36)	TISSUE	MN	
RCRP	EPA 1668A	3,3'-Dichlorobiphenyl (BZ-11)	TISSUE	MN	
RCRP	EPA 1668A	3,3'-Dichlorobiphenyl (BZ-11)	SCM	MN	
RCRP	EPA 1668A	3,4',5-Trichlorobiphenyl (BZ-39)	SCM	MN	
RCRP	EPA 1668A	3,4',5-Trichlorobiphenyl (BZ-39)	TISSUE	MN	
RCRP	EPA 1668A	3,4,4',5-Tetrachlorobiphenyl (BZ-81)	NPW	MN	
RCRP	EPA 1668A	3,4,4',5-Tetrachlorobiphenyl (BZ-81)	SCM	MN	
RCRP	EPA 1668A	3,4,4',5-Tetrachlorobiphenyl (BZ-81)	TISSUE	MN	
RCRP	EPA 1668A	3,4,4'-Trichlorobiphenyl (BZ-37)	SCM	MN	
RCRP	EPA 1668A	3,4,4'-Trichlorobiphenyl (BZ-37)	TISSUE	MN	
RCRP	EPA 1668A	3,4,5-Trichlorobiphenyl (BZ-38)	SCM	MN	
RCRP	EPA 1668A	3,4,5-Trichlorobiphenyl (BZ-38)	TISSUE	MN	
RCRP	EPA 1668A	3,5-Dichlorobiphenyl (BZ-14)	TISSUE	MN	
RCRP	EPA 1668A	3,5-Dichlorobiphenyl (BZ-14)	SCM	MN	
RCRP	EPA 1668A	3-Chlorobiphenyl (BZ-2)	SCM	MN	
RCRP	EPA 1668A	3-Chlorobiphenyl (BZ-2)	TISSUE	MN	
RCRP	EPA 1668A	4,4'-Dichlorobiphenyl (BZ-15)	SCM	MN	
RCRP	EPA 1668A	4,4'-Dichlorobiphenyl (BZ-15)	TISSUE	MN	
RCRP	EPA 1668A	4-Chlorobiphenyl (BZ-3)	TISSUE	MN	
RCRP	EPA 1668A	4-Chlorobiphenyl (BZ-3)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	Decachlorobiphenyl (BZ-209)	SCM	MN	
RCRP	EPA 1668A	Decachlorobiphenyl (BZ-209)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(100/93/102/98)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(100/93/102/98)	SCM	MN	
RCRP	EPA 1668A	PCB-(107/124)	SCM	MN	
RCRP	EPA 1668A	PCB-(107/124)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(108/119/86/97/125/87)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(108/119/86/97/125/87)	SCM	MN	
RCRP	EPA 1668A	PCB-(110/115)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(110/115)	SCM	MN	
RCRP	EPA 1668A	PCB-(113/90/101)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(113/90/101)	SCM	MN	
RCRP	EPA 1668A	PCB-(117/116/85)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(117/116/85)	SCM	MN	
RCRP	EPA 1668A	PCB-(128/166)	SCM	MN	
RCRP	EPA 1668A	PCB-(128/166)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(13/12)	SCM	MN	
RCRP	EPA 1668A	PCB-(13/12)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(134/143)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(134/143)	SCM	MN	
RCRP	EPA 1668A	PCB-(138/163/129)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(138/163/129)	SCM	MN	
RCRP	EPA 1668A	PCB-(139/140)	SCM	MN	
RCRP	EPA 1668A	PCB-(139/140)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(147/149)	SCM	MN	
RCRP	EPA 1668A	PCB-(147/149)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(151/135)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(151/135)	SCM	MN	
RCRP	EPA 1668A	PCB-(153/168)	SCM	MN	
RCRP	EPA 1668A	PCB-(153/168)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(156/157)	SCM	MN	
RCRP	EPA 1668A	PCB-(156/157)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(171/173)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(171/173)	SCM	MN	
RCRP	EPA 1668A	PCB-(180/193)	SCM	MN	
RCRP	EPA 1668A	PCB-(180/193)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668A	PCB-(183/185)	SCM	MN	
RCRP	EPA 1668A	PCB-(183/185)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(197/200)	SCM	MN	
RCRP	EPA 1668A	PCB-(197/200)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(198/199)	SCM	MN	
RCRP	EPA 1668A	PCB-(198/199)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(21/33)	SCM	MN	
RCRP	EPA 1668A	PCB-(21/33)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(26/29)	SCM	MN	
RCRP	EPA 1668A	PCB-(26/29)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(28/20)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(28/20)	SCM	MN	
RCRP	EPA 1668A	PCB-(30/18)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(30/18)	SCM	MN	
RCRP	EPA 1668A	PCB-(41/40/71)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(41/40/71)	SCM	MN	
RCRP	EPA 1668A	PCB-(44/47/65)	SCM	MN	
RCRP	EPA 1668A	PCB-(44/47/65)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(45/51)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(45/51)	SCM	MN	
RCRP	EPA 1668A	PCB-(50/53)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(50/53)	SCM	MN	
RCRP	EPA 1668A	PCB-(59/62/75)	SCM	MN	
RCRP	EPA 1668A	PCB-(59/62/75)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(61/70/74/76)	SCM	MN	
RCRP	EPA 1668A	PCB-(61/70/74/76)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(69/49)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(69/49)	SCM	MN	
RCRP	EPA 1668A	PCB-(73/43)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(73/43)	SCM	MN	
RCRP	EPA 1668A	PCB-(88/91)	TISSUE	MN	
RCRP	EPA 1668A	PCB-(88/91)	SCM	MN	

EPA 1668C

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668C	2,3',5',6-Tetrachlorobiphenyl (BZ-73)	NPW	MN	
RCRP	EPA 1668C	2,3',5',6-Tetrachlorobiphenyl (BZ-73)	SCM	MN	
RCRP	EPA 1668C	2,3',5',6-Tetrachlorobiphenyl (BZ-73)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(100/93/102/98)	SCM	MN	
RCRP	EPA 1668C	PCB-(100/93/102/98)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(107/124)	SCM	MN	
RCRP	EPA 1668C	PCB-(107/124)	NPW	MN	
RCRP	EPA 1668C	PCB-(107/124)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(108/119/86/97/125/87)	SCM	MN	
RCRP	EPA 1668C	PCB-(108/119/86/97/125/87)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(110/115)	SCM	MN	
RCRP	EPA 1668C	PCB-(110/115)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(110/115)	NPW	MN	
RCRP	EPA 1668C	PCB-(113/90/101)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(113/90/101)	SCM	MN	
RCRP	EPA 1668C	PCB-(113/90/101)	NPW	MN	
RCRP	EPA 1668C	PCB-(117/116/85)	SCM	MN	
RCRP	EPA 1668C	PCB-(117/116/85)	NPW	MN	
RCRP	EPA 1668C	PCB-(117/116/85)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(128/166)	SCM	MN	
RCRP	EPA 1668C	PCB-(128/166)	NPW	MN	
RCRP	EPA 1668C	PCB-(128/166)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(13/12)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(13/12)	SCM	MN	
RCRP	EPA 1668C	PCB-(13/12)	NPW	MN	
RCRP	EPA 1668C	PCB-(134/143)	NPW	MN	
RCRP	EPA 1668C	PCB-(134/143)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(134/143)	SCM	MN	
RCRP	EPA 1668C	PCB-(138/163/129)	SCM	MN	
RCRP	EPA 1668C	PCB-(138/163/129)	NPW	MN	
RCRP	EPA 1668C	PCB-(138/163/129)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(139/140)	SCM	MN	
RCRP	EPA 1668C	PCB-(139/140)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(139/140)	NPW	MN	
RCRP	EPA 1668C	PCB-(147/149)	NPW	MN	
RCRP	EPA 1668C	PCB-(147/149)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668C	PCB-(147/149)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(151/135)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(151/135)	NPW	MN	
RCRP	EPA 1668C	PCB-(151/135)	SCM	MN	
RCRP	EPA 1668C	PCB-(153/168)	SCM	MN	
RCRP	EPA 1668C	PCB-(153/168)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(153/168)	NPW	MN	
RCRP	EPA 1668C	PCB-(156/157)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(156/157)	SCM	MN	
RCRP	EPA 1668C	PCB-(156/157)	NPW	MN	
RCRP	EPA 1668C	PCB-(171/173)	NPW	MN	
RCRP	EPA 1668C	PCB-(171/173)	SCM	MN	
RCRP	EPA 1668C	PCB-(171/173)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(180/193)	NPW	MN	
RCRP	EPA 1668C	PCB-(180/193)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(180/193)	SCM	MN	
RCRP	EPA 1668C	PCB-(183/185)	SCM	MN	
RCRP	EPA 1668C	PCB-(183/185)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(183/185)	NPW	MN	
RCRP	EPA 1668C	PCB-(197/200)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(197/200)	SCM	MN	
RCRP	EPA 1668C	PCB-(197/200)	NPW	MN	
RCRP	EPA 1668C	PCB-(198/199)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(198/199)	SCM	MN	
RCRP	EPA 1668C	PCB-(198/199)	NPW	MN	
RCRP	EPA 1668C	PCB-(21/33)	SCM	MN	
RCRP	EPA 1668C	PCB-(21/33)	NPW	MN	
RCRP	EPA 1668C	PCB-(21/33)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(26/29)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(26/29)	NPW	MN	
RCRP	EPA 1668C	PCB-(26/29)	SCM	MN	
RCRP	EPA 1668C	PCB-(28/20)	NPW	MN	
RCRP	EPA 1668C	PCB-(28/20)	SCM	MN	
RCRP	EPA 1668C	PCB-(28/20)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(30/18)	NPW	MN	
RCRP	EPA 1668C	PCB-(30/18)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 1668C	PCB-(30/18)	SCM	MN	
RCRP	EPA 1668C	PCB-(41/40/71)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(41/40/71)	NPW	MN	
RCRP	EPA 1668C	PCB-(41/40/71)	SCM	MN	
RCRP	EPA 1668C	PCB-(44/47/65)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(44/47/65)	SCM	MN	
RCRP	EPA 1668C	PCB-(44/47/65)	NPW	MN	
RCRP	EPA 1668C	PCB-(45/51)	SCM	MN	
RCRP	EPA 1668C	PCB-(45/51)	NPW	MN	
RCRP	EPA 1668C	PCB-(45/51)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(50/53)	SCM	MN	
RCRP	EPA 1668C	PCB-(50/53)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(50/53)	NPW	MN	
RCRP	EPA 1668C	PCB-(59/62/75)	NPW	MN	
RCRP	EPA 1668C	PCB-(59/62/75)	SCM	MN	
RCRP	EPA 1668C	PCB-(59/62/75)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(61/70/74/76)	NPW	MN	
RCRP	EPA 1668C	PCB-(61/70/74/76)	SCM	MN	
RCRP	EPA 1668C	PCB-(61/70/74/76)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(69/49)	NPW	MN	
RCRP	EPA 1668C	PCB-(69/49)	SCM	MN	
RCRP	EPA 1668C	PCB-(69/49)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(88/91)	TISSUE	MN	
RCRP	EPA 1668C	PCB-(88/91)	SCM	MN	
RCRP	EPA 1668C	PCB-(88/91)	NPW	MN	

EPA 8081B

Preparation Techniques: Extraction, ultrasonic; Extraction, separatory funnel liquid-liquid (LLE);

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8081B	4,4'-DDD	SCM	MN	
RCRP	EPA 8081B	4,4'-DDD	NPW	MN	
RCRP	EPA 8081B	4,4'-DDE	NPW	MN	
RCRP	EPA 8081B	4,4'-DDE	SCM	MN	
RCRP	EPA 8081B	4,4'-DDT	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8081B	4,4'-DDT	SCM	MN	
RCRP	EPA 8081B	Aldrin	NPW	MN	
RCRP	EPA 8081B	Aldrin	SCM	MN	
RCRP	EPA 8081B	alpha-BHC (alpha-Hexachlorocyclohexane)	SCM	MN	
RCRP	EPA 8081B	alpha-BHC (alpha-Hexachlorocyclohexane)	NPW	MN	
RCRP	EPA 8081B	alpha-Chlordane	NPW	MN	
RCRP	EPA 8081B	alpha-Chlordane	SCM	MN	
RCRP	EPA 8081B	beta-BHC (beta-Hexachlorocyclohexane)	SCM	MN	
RCRP	EPA 8081B	beta-BHC (beta-Hexachlorocyclohexane)	NPW	MN	
RCRP	EPA 8081B	Chlordane (tech.)	NPW	MN	
RCRP	EPA 8081B	Chlordane (tech.)	SCM	MN	
RCRP	EPA 8081B	delta-BHC	SCM	MN	
RCRP	EPA 8081B	delta-BHC	NPW	MN	
RCRP	EPA 8081B	Dieldrin	NPW	MN	
RCRP	EPA 8081B	Dieldrin	SCM	MN	
RCRP	EPA 8081B	Endosulfan I	NPW	MN	
RCRP	EPA 8081B	Endosulfan I	SCM	MN	
RCRP	EPA 8081B	Endosulfan II	NPW	MN	
RCRP	EPA 8081B	Endosulfan II	SCM	MN	
RCRP	EPA 8081B	Endosulfan sulfate	NPW	MN	
RCRP	EPA 8081B	Endosulfan sulfate	SCM	MN	
RCRP	EPA 8081B	Endrin	SCM	MN	
RCRP	EPA 8081B	Endrin	NPW	MN	
RCRP	EPA 8081B	Endrin aldehyde	NPW	MN	
RCRP	EPA 8081B	Endrin aldehyde	SCM	MN	
RCRP	EPA 8081B	Endrin ketone	NPW	MN	
RCRP	EPA 8081B	Endrin ketone	SCM	MN	
RCRP	EPA 8081B	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	NPW	MN	
RCRP	EPA 8081B	gamma-BHC (Lindane, gamma-HexachlorocyclohexanE)	SCM	MN	
RCRP	EPA 8081B	gamma-Chlordane	SCM	MN	
RCRP	EPA 8081B	gamma-Chlordane	NPW	MN	
RCRP	EPA 8081B	Heptachlor	NPW	MN	
RCRP	EPA 8081B	Heptachlor	SCM	MN	
RCRP	EPA 8081B	Heptachlor epoxide	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8081B	Heptachlor epoxide	NPW	MN	
RCRP	EPA 8081B	Isodrin	SCM	MN	
RCRP	EPA 8081B	Isodrin	NPW	MN	
RCRP	EPA 8081B	Methoxychlor	SCM	MN	
RCRP	EPA 8081B	Methoxychlor	NPW	MN	
RCRP	EPA 8081B	Toxaphene (Chlorinated camphene)	NPW	MN	
RCRP	EPA 8081B	Toxaphene (Chlorinated camphene)	SCM	MN	

EPA 8082

Preparation Techniques: Extraction, ultrasonic; Extraction, separatory funnel liquid-liquid (LLE); Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8082	Aroclor-1016 (PCB-1016)	SCM	MN	
RCRP	EPA 8082	Aroclor-1016 (PCB-1016)	NPW	MN	
RCRP	EPA 8082	Aroclor-1221 (PCB-1221)	NPW	MN	
RCRP	EPA 8082	Aroclor-1221 (PCB-1221)	SCM	MN	
RCRP	EPA 8082	Aroclor-1232 (PCB-1232)	SCM	MN	
RCRP	EPA 8082	Aroclor-1232 (PCB-1232)	NPW	MN	
RCRP	EPA 8082	Aroclor-1242 (PCB-1242)	SCM	MN	
RCRP	EPA 8082	Aroclor-1242 (PCB-1242)	NPW	MN	
RCRP	EPA 8082	Aroclor-1248 (PCB-1248)	NPW	MN	
RCRP	EPA 8082	Aroclor-1248 (PCB-1248)	SCM	MN	
RCRP	EPA 8082	Aroclor-1254 (PCB-1254)	SCM	MN	
RCRP	EPA 8082	Aroclor-1254 (PCB-1254)	NPW	MN	
RCRP	EPA 8082	Aroclor-1260 (PCB-1260)	SCM	MN	
RCRP	EPA 8082	Aroclor-1260 (PCB-1260)	NPW	MN	
RCRP	EPA 8082	PCBs	SCM	MN	

EPA 8082A

Preparation Techniques: Extraction, ultrasonic; Extraction, separatory funnel liquid-liquid (LLE); Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8082A	Aroclor-1016 (PCB-1016)	SCM	MN	
RCRP	EPA 8082A	Aroclor-1016 (PCB-1016)	NPW	MN	
RCRP	EPA 8082A	Aroclor-1221 (PCB-1221)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8082A	Aroclor-1221 (PCB-1221)	SCM	MN	
RCRP	EPA 8082A	Aroclor-1232 (PCB-1232)	NPW	MN	
RCRP	EPA 8082A	Aroclor-1232 (PCB-1232)	SCM	MN	
RCRP	EPA 8082A	Aroclor-1242 (PCB-1242)	NPW	MN	
RCRP	EPA 8082A	Aroclor-1242 (PCB-1242)	SCM	MN	
RCRP	EPA 8082A	Aroclor-1248 (PCB-1248)	SCM	MN	
RCRP	EPA 8082A	Aroclor-1248 (PCB-1248)	NPW	MN	
RCRP	EPA 8082A	Aroclor-1254 (PCB-1254)	SCM	MN	
RCRP	EPA 8082A	Aroclor-1254 (PCB-1254)	NPW	MN	
RCRP	EPA 8082A	Aroclor-1260 (PCB-1260)	NPW	MN	
RCRP	EPA 8082A	Aroclor-1260 (PCB-1260)	SCM	MN	

EPA 8270C

Preparation Techniques: Extraction, ultrasonic; Extraction, EPA 1312 SPLP, non-volatiles; Extraction, separatory funnel liquid-liquid (LLE); Extraction, continuous liquid-liquid (LLE); Extraction, EPA 1311 TCLP, non-volatiles; Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270C	1,2,4-Trichlorobenzene	NPW	MN	
RCRP	EPA 8270C	1,2,4-Trichlorobenzene	SCM	MN	
RCRP	EPA 8270C	1,2-Dichlorobenzene	NPW	MN	
RCRP	EPA 8270C	1,2-Dichlorobenzene	SCM	MN	
RCRP	EPA 8270C	1,2-Diphenylhydrazine	SCM	MN	
RCRP	EPA 8270C	1,2-Diphenylhydrazine	NPW	MN	
RCRP	EPA 8270C	1,3-Dichlorobenzene	SCM	MN	
RCRP	EPA 8270C	1,3-Dichlorobenzene	NPW	MN	
RCRP	EPA 8270C	1,4-Dichlorobenzene	SCM	MN	
RCRP	EPA 8270C	1,4-Dichlorobenzene	NPW	MN	
RCRP	EPA 8270C	2,4,5-Trichlorophenol	NPW	MN	
RCRP	EPA 8270C	2,4,5-Trichlorophenol	SCM	MN	
RCRP	EPA 8270C	2,4,6-Trichlorophenol	NPW	MN	
RCRP	EPA 8270C	2,4,6-Trichlorophenol	SCM	MN	
RCRP	EPA 8270C	2,4-Dichlorophenol	SCM	MN	
RCRP	EPA 8270C	2,4-Dichlorophenol	NPW	MN	
RCRP	EPA 8270C	2,4-Dimethylphenol	NPW	MN	
RCRP	EPA 8270C	2,4-Dimethylphenol	SCM	MN	
RCRP	EPA 8270C	2,4-Dinitrophenol	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270C	2,4-Dinitrophenol	SCM	MN	
RCRP	EPA 8270C	2,4-Dinitrotoluene (2,4-DNT)	SCM	MN	
RCRP	EPA 8270C	2,4-Dinitrotoluene (2,4-DNT)	NPW	MN	
RCRP	EPA 8270C	2,6-Dinitrotoluene (2,6-DNT)	NPW	MN	
RCRP	EPA 8270C	2,6-Dinitrotoluene (2,6-DNT)	SCM	MN	
RCRP	EPA 8270C	2-Chloronaphthalene	NPW	MN	
RCRP	EPA 8270C	2-Chloronaphthalene	SCM	MN	
RCRP	EPA 8270C	2-Chlorophenol	NPW	MN	
RCRP	EPA 8270C	2-Chlorophenol	SCM	MN	
RCRP	EPA 8270C	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	SCM	MN	
RCRP	EPA 8270C	2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	NPW	MN	
RCRP	EPA 8270C	2-Methylnaphthalene	NPW	MN	
RCRP	EPA 8270C	2-Methylnaphthalene	SCM	MN	
RCRP	EPA 8270C	2-Methylphenol (o-Cresol)	SCM	MN	
RCRP	EPA 8270C	2-Methylphenol (o-Cresol)	NPW	MN	
RCRP	EPA 8270C	2-Nitroaniline	SCM	MN	
RCRP	EPA 8270C	2-Nitroaniline	NPW	MN	
RCRP	EPA 8270C	2-Nitrophenol	NPW	MN	
RCRP	EPA 8270C	2-Nitrophenol	SCM	MN	
RCRP	EPA 8270C	3,3'-Dichlorobenzidine	SCM	MN	
RCRP	EPA 8270C	3,3'-Dichlorobenzidine	NPW	MN	
RCRP	EPA 8270C	3-Methylphenol (m-Cresol)	NPW	MN	
RCRP	EPA 8270C	3-Methylphenol (m-Cresol)	SCM	MN	
RCRP	EPA 8270C	3-Nitroaniline	NPW	MN	
RCRP	EPA 8270C	3-Nitroaniline	SCM	MN	
RCRP	EPA 8270C	4-Bromophenyl phenyl ether	SCM	MN	
RCRP	EPA 8270C	4-Bromophenyl phenyl ether	NPW	MN	
RCRP	EPA 8270C	4-Chloro-3-methylphenol	SCM	MN	
RCRP	EPA 8270C	4-Chloro-3-methylphenol	NPW	MN	
RCRP	EPA 8270C	4-Chloroaniline	SCM	MN	
RCRP	EPA 8270C	4-Chloroaniline	NPW	MN	
RCRP	EPA 8270C	4-Chlorophenyl phenylether	NPW	MN	
RCRP	EPA 8270C	4-Chlorophenyl phenylether	SCM	MN	
RCRP	EPA 8270C	4-Methylphenol (p-Cresol)	SCM	MN	
RCRP	EPA 8270C	4-Nitroaniline	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270C	4-Nitroaniline	NPW	MN	
RCRP	EPA 8270C	4-Nitrophenol	SCM	MN	
RCRP	EPA 8270C	4-Nitrophenol	NPW	MN	
RCRP	EPA 8270C	Acenaphthene	SCM	MN	
RCRP	EPA 8270C	Acenaphthene	NPW	MN	
RCRP	EPA 8270C	Acenaphthylene	NPW	MN	
RCRP	EPA 8270C	Acenaphthylene	SCM	MN	
RCRP	EPA 8270C	Anthracene	NPW	MN	
RCRP	EPA 8270C	Anthracene	SCM	MN	
RCRP	EPA 8270C	Benzidine	NPW	MN	
RCRP	EPA 8270C	Benzidine	SCM	MN	
RCRP	EPA 8270C	Benzo(a)anthracene	SCM	MN	
RCRP	EPA 8270C	Benzo(a)anthracene	NPW	MN	
RCRP	EPA 8270C	Benzo(a)pyrene	NPW	MN	
RCRP	EPA 8270C	Benzo(a)pyrene	SCM	MN	
RCRP	EPA 8270C	Benzo(g,h,i)perylene	SCM	MN	
RCRP	EPA 8270C	Benzo(g,h,i)perylene	NPW	MN	
RCRP	EPA 8270C	Benzo(k)fluoranthene	NPW	MN	
RCRP	EPA 8270C	Benzo(k)fluoranthene	SCM	MN	
RCRP	EPA 8270C	Benzo[b]fluoranthene	SCM	MN	
RCRP	EPA 8270C	Benzo[b]fluoranthene	NPW	MN	
RCRP	EPA 8270C	Benzoic acid	SCM	MN	
RCRP	EPA 8270C	Benzoic acid	NPW	MN	
RCRP	EPA 8270C	Benzyl alcohol	NPW	MN	
RCRP	EPA 8270C	Benzyl alcohol	SCM	MN	
RCRP	EPA 8270C	bis(2-Chloroethoxy)methane	SCM	MN	
RCRP	EPA 8270C	bis(2-Chloroethoxy)methane	NPW	MN	
RCRP	EPA 8270C	bis(2-Chloroethyl) ether	SCM	MN	
RCRP	EPA 8270C	bis(2-Chloroethyl) ether	NPW	MN	
RCRP	EPA 8270C	bis(2-Chloroisopropyl) ether	SCM	MN	
RCRP	EPA 8270C	bis(2-Chloroisopropyl) ether	NPW	MN	
RCRP	EPA 8270C	Butyl benzyl phthalate	SCM	MN	
RCRP	EPA 8270C	Butyl benzyl phthalate	NPW	MN	
RCRP	EPA 8270C	Chrysene	NPW	MN	
RCRP	EPA 8270C	Chrysene	SCM	MN	
RCRP	EPA 8270C	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270C	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	SCM	MN	
RCRP	EPA 8270C	Di-n-butyl phthalate	NPW	MN	
RCRP	EPA 8270C	Di-n-butyl phthalate	SCM	MN	
RCRP	EPA 8270C	Di-n-octyl phthalate	NPW	MN	
RCRP	EPA 8270C	Di-n-octyl phthalate	SCM	MN	
RCRP	EPA 8270C	Dibenz(a,h) anthracene	SCM	MN	
RCRP	EPA 8270C	Dibenz(a,h) anthracene	NPW	MN	
RCRP	EPA 8270C	Dibenzofuran	SCM	MN	
RCRP	EPA 8270C	Dibenzofuran	NPW	MN	
RCRP	EPA 8270C	Diethyl phthalate	NPW	MN	
RCRP	EPA 8270C	Diethyl phthalate	SCM	MN	
RCRP	EPA 8270C	Dimethyl phthalate	SCM	MN	
RCRP	EPA 8270C	Dimethyl phthalate	NPW	MN	
RCRP	EPA 8270C	Fluoranthene	NPW	MN	
RCRP	EPA 8270C	Fluoranthene	SCM	MN	
RCRP	EPA 8270C	Fluorene	SCM	MN	
RCRP	EPA 8270C	Fluorene	NPW	MN	
RCRP	EPA 8270C	Hexachlorobenzene	NPW	MN	
RCRP	EPA 8270C	Hexachlorobenzene	SCM	MN	
RCRP	EPA 8270C	Hexachlorobutadiene	NPW	MN	
RCRP	EPA 8270C	Hexachlorobutadiene	SCM	MN	
RCRP	EPA 8270C	Hexachlorocyclopentadiene	SCM	MN	
RCRP	EPA 8270C	Hexachlorocyclopentadiene	NPW	MN	
RCRP	EPA 8270C	Hexachloroethane	SCM	MN	
RCRP	EPA 8270C	Hexachloroethane	NPW	MN	
RCRP	EPA 8270C	Indeno(1,2,3-cd) pyrene	NPW	MN	
RCRP	EPA 8270C	Indeno(1,2,3-cd) pyrene	SCM	MN	
RCRP	EPA 8270C	Isophorone	SCM	MN	
RCRP	EPA 8270C	Isophorone	NPW	MN	
RCRP	EPA 8270C	n-Nitrosodi-n-propylamine	NPW	MN	
RCRP	EPA 8270C	n-Nitrosodi-n-propylamine	SCM	MN	
RCRP	EPA 8270C	n-Nitrosodimethylamine	SCM	MN	
RCRP	EPA 8270C	n-Nitrosodimethylamine	NPW	MN	
RCRP	EPA 8270C	n-Nitrosodiphenylamine	NPW	MN	
RCRP	EPA 8270C	n-Nitrosodiphenylamine	SCM	MN	
RCRP	EPA 8270C	Naphthalene	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270C	Naphthalene	NPW	MN	
RCRP	EPA 8270C	Nitrobenzene	SCM	MN	
RCRP	EPA 8270C	Nitrobenzene	NPW	MN	
RCRP	EPA 8270C	Pentachlorophenol	NPW	MN	
RCRP	EPA 8270C	Pentachlorophenol	SCM	MN	
RCRP	EPA 8270C	Phenanthrene	NPW	MN	
RCRP	EPA 8270C	Phenanthrene	SCM	MN	
RCRP	EPA 8270C	Phenol	NPW	MN	
RCRP	EPA 8270C	Phenol	SCM	MN	
RCRP	EPA 8270C	Pyrene	SCM	MN	
RCRP	EPA 8270C	Pyrene	NPW	MN	
RCRP	EPA 8270C	Pyridine	NPW	MN	
RCRP	EPA 8270C	Pyridine	SCM	MN	

EPA 8270C SIM

Preparation Techniques: Extraction, ultrasonic; Extraction, separatory funnel liquid-liquid (LLE); Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270C SIM	Benzo(a)anthracene	SCM	MN	
RCRP	EPA 8270C SIM	Benzo(a)anthracene	NPW	MN	
RCRP	EPA 8270C SIM	Benzo(a)pyrene	SCM	MN	
RCRP	EPA 8270C SIM	Benzo(a)pyrene	NPW	MN	
RCRP	EPA 8270C SIM	Benzo(j)fluoranthene	NPW	MN	
RCRP	EPA 8270C SIM	Benzo(j)fluoranthene	SCM	MN	
RCRP	EPA 8270C SIM	Benzo(k)fluoranthene	SCM	MN	
RCRP	EPA 8270C SIM	Benzo(k)fluoranthene	NPW	MN	
RCRP	EPA 8270C SIM	Benzo[b]fluoranthene	NPW	MN	
RCRP	EPA 8270C SIM	Benzo[b]fluoranthene	SCM	MN	
RCRP	EPA 8270C SIM	Dibenz(a,h) anthracene	SCM	MN	
RCRP	EPA 8270C SIM	Dibenz(a,h) anthracene	NPW	MN	
RCRP	EPA 8270C SIM	Fluoranthene	SCM	MN	
RCRP	EPA 8270C SIM	Fluoranthene	NPW	MN	
RCRP	EPA 8270C SIM	Indeno(1,2,3-cd) pyrene	SCM	MN	
RCRP	EPA 8270C SIM	Indeno(1,2,3-cd) pyrene	NPW	MN	
RCRP	EPA 8270C SIM	Pyrene	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270C SIM	Pyrene	SCM	MN	

EPA 8270D

Preparation Techniques: Extraction, ultrasonic; Extraction, EPA 1312 SPLP, non-volatiles; Extraction, separatory funnel liquid-liquid (LLE); Extraction, continuous liquid-liquid (LLE); Extraction, EPA 1311 TCLP, non-volatiles; Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270D	1,2,4-Trichlorobenzene	SCM	MN	
RCRP	EPA 8270D	1,2,4-Trichlorobenzene	NPW	MN	
RCRP	EPA 8270D	1,2-Dichlorobenzene	NPW	MN	
RCRP	EPA 8270D	1,2-Dichlorobenzene	SCM	MN	
RCRP	EPA 8270D	1,2-Diphenylhydrazine	SCM	MN	
RCRP	EPA 8270D	1,2-Diphenylhydrazine	NPW	MN	
RCRP	EPA 8270D	1,3-Dichlorobenzene	NPW	MN	
RCRP	EPA 8270D	1,3-Dichlorobenzene	SCM	MN	
RCRP	EPA 8270D	1,4-Dichlorobenzene	NPW	MN	
RCRP	EPA 8270D	1,4-Dichlorobenzene	SCM	MN	
RCRP	EPA 8270D	2,4,5-Trichlorophenol	SCM	MN	
RCRP	EPA 8270D	2,4,5-Trichlorophenol	NPW	MN	
RCRP	EPA 8270D	2,4,6-Trichlorophenol	SCM	MN	
RCRP	EPA 8270D	2,4,6-Trichlorophenol	NPW	MN	
RCRP	EPA 8270D	2,4-Dichlorophenol	NPW	MN	
RCRP	EPA 8270D	2,4-Dichlorophenol	SCM	MN	
RCRP	EPA 8270D	2,4-Dimethylphenol	NPW	MN	
RCRP	EPA 8270D	2,4-Dimethylphenol	SCM	MN	
RCRP	EPA 8270D	2,4-Dinitrophenol	NPW	MN	
RCRP	EPA 8270D	2,4-Dinitrophenol	SCM	MN	
RCRP	EPA 8270D	2,4-Dinitrotoluene (2,4-DNT)	NPW	MN	
RCRP	EPA 8270D	2,4-Dinitrotoluene (2,4-DNT)	SCM	MN	
RCRP	EPA 8270D	2,6-Dinitrotoluene (2,6-DNT)	SCM	MN	
RCRP	EPA 8270D	2,6-Dinitrotoluene (2,6-DNT)	NPW	MN	
RCRP	EPA 8270D	2-Chloronaphthalene	SCM	MN	
RCRP	EPA 8270D	2-Chloronaphthalene	NPW	MN	
RCRP	EPA 8270D	2-Chlorophenol	NPW	MN	
RCRP	EPA 8270D	2-Chlorophenol	SCM	MN	
RCRP	EPA 8270D	2-Methylnaphthalene	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270D	2-Methylnaphthalene	SCM	MN	
RCRP	EPA 8270D	2-Methylphenol (o-Cresol)	SCM	MN	
RCRP	EPA 8270D	2-Methylphenol (o-Cresol)	NPW	MN	
RCRP	EPA 8270D	2-Nitroaniline	SCM	MN	
RCRP	EPA 8270D	2-Nitroaniline	NPW	MN	
RCRP	EPA 8270D	2-Nitrophenol	SCM	MN	
RCRP	EPA 8270D	2-Nitrophenol	NPW	MN	
RCRP	EPA 8270D	3,3'-Dichlorobenzidine	NPW	MN	
RCRP	EPA 8270D	3,3'-Dichlorobenzidine	SCM	MN	
RCRP	EPA 8270D	3-Methylcholanthrene	SCM	MN	
RCRP	EPA 8270D	3-Methylcholanthrene	NPW	MN	
RCRP	EPA 8270D	3-Methylphenol (m-Cresol)	NPW	MN	
RCRP	EPA 8270D	3-Methylphenol (m-Cresol)	SCM	MN	
RCRP	EPA 8270D	3-Nitroaniline	SCM	MN	
RCRP	EPA 8270D	3-Nitroaniline	NPW	MN	
RCRP	EPA 8270D	4,6-Dinitro-2-methylphenol	SCM	MN	
RCRP	EPA 8270D	4,6-Dinitro-2-methylphenol	NPW	MN	
RCRP	EPA 8270D	4-Bromophenyl phenyl ether	SCM	MN	
RCRP	EPA 8270D	4-Bromophenyl phenyl ether	NPW	MN	
RCRP	EPA 8270D	4-Chloro-3-methylphenol	SCM	MN	
RCRP	EPA 8270D	4-Chloro-3-methylphenol	NPW	MN	
RCRP	EPA 8270D	4-Chloroaniline	SCM	MN	
RCRP	EPA 8270D	4-Chloroaniline	NPW	MN	
RCRP	EPA 8270D	4-Chlorophenyl phenylether	SCM	MN	
RCRP	EPA 8270D	4-Chlorophenyl phenylether	NPW	MN	
RCRP	EPA 8270D	4-Methylphenol (p-Cresol)	SCM	MN	
RCRP	EPA 8270D	4-Nitroaniline	NPW	MN	
RCRP	EPA 8270D	4-Nitroaniline	SCM	MN	
RCRP	EPA 8270D	4-Nitrophenol	SCM	MN	
RCRP	EPA 8270D	4-Nitrophenol	NPW	MN	
RCRP	EPA 8270D	Acenaphthene	NPW	MN	
RCRP	EPA 8270D	Acenaphthene	SCM	MN	
RCRP	EPA 8270D	Acenaphthylene	NPW	MN	
RCRP	EPA 8270D	Acenaphthylene	SCM	MN	
RCRP	EPA 8270D	Anthracene	NPW	MN	
RCRP	EPA 8270D	Anthracene	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270D	Benzidine	NPW	MN	
RCRP	EPA 8270D	Benzidine	SCM	MN	
RCRP	EPA 8270D	Benzo(a)anthracene	NPW	MN	
RCRP	EPA 8270D	Benzo(a)anthracene	SCM	MN	
RCRP	EPA 8270D	Benzo(a)pyrene	SCM	MN	
RCRP	EPA 8270D	Benzo(a)pyrene	NPW	MN	
RCRP	EPA 8270D	Benzo(g,h,i)perylene	NPW	MN	
RCRP	EPA 8270D	Benzo(g,h,i)perylene	SCM	MN	
RCRP	EPA 8270D	Benzo(k)fluoranthene	NPW	MN	
RCRP	EPA 8270D	Benzo(k)fluoranthene	SCM	MN	
RCRP	EPA 8270D	Benzo[b]fluoranthene	SCM	MN	
RCRP	EPA 8270D	Benzo[b]fluoranthene	NPW	MN	
RCRP	EPA 8270D	Benzoic acid	NPW	MN	
RCRP	EPA 8270D	Benzoic acid	SCM	MN	
RCRP	EPA 8270D	Benzyl alcohol	SCM	MN	
RCRP	EPA 8270D	Benzyl alcohol	NPW	MN	
RCRP	EPA 8270D	bis(2-Chloroethoxy)methane	SCM	MN	
RCRP	EPA 8270D	bis(2-Chloroethoxy)methane	NPW	MN	
RCRP	EPA 8270D	bis(2-Chloroethyl) ether	SCM	MN	
RCRP	EPA 8270D	bis(2-Chloroethyl) ether	NPW	MN	
RCRP	EPA 8270D	bis(2-Chloroisopropyl) ether	NPW	MN	
RCRP	EPA 8270D	bis(2-Chloroisopropyl) ether	SCM	MN	
RCRP	EPA 8270D	Butyl benzyl phthalate	NPW	MN	
RCRP	EPA 8270D	Butyl benzyl phthalate	SCM	MN	
RCRP	EPA 8270D	Carbazole	NPW	MN	
RCRP	EPA 8270D	Carbazole	SCM	MN	
RCRP	EPA 8270D	Chrysene	SCM	MN	
RCRP	EPA 8270D	Chrysene	NPW	MN	
RCRP	EPA 8270D	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	SCM	MN	
RCRP	EPA 8270D	Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	NPW	MN	
RCRP	EPA 8270D	Di-n-butyl phthalate	SCM	MN	
RCRP	EPA 8270D	Di-n-butyl phthalate	NPW	MN	
RCRP	EPA 8270D	Di-n-octyl phthalate	NPW	MN	
RCRP	EPA 8270D	Di-n-octyl phthalate	SCM	MN	
RCRP	EPA 8270D	Dibenz(a,h) anthracene	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270D	Dibenz(a,h) anthracene	SCM	MN	
RCRP	EPA 8270D	Dibenzofuran	NPW	MN	
RCRP	EPA 8270D	Dibenzofuran	SCM	MN	
RCRP	EPA 8270D	Diethyl phthalate	SCM	MN	
RCRP	EPA 8270D	Diethyl phthalate	NPW	MN	
RCRP	EPA 8270D	Dimethyl phthalate	SCM	MN	
RCRP	EPA 8270D	Dimethyl phthalate	NPW	MN	
RCRP	EPA 8270D	Fluoranthene	NPW	MN	
RCRP	EPA 8270D	Fluoranthene	SCM	MN	
RCRP	EPA 8270D	Fluorene	SCM	MN	
RCRP	EPA 8270D	Fluorene	NPW	MN	
RCRP	EPA 8270D	Hexachlorobenzene	NPW	MN	
RCRP	EPA 8270D	Hexachlorobenzene	SCM	MN	
RCRP	EPA 8270D	Hexachlorobutadiene	SCM	MN	
RCRP	EPA 8270D	Hexachlorobutadiene	NPW	MN	
RCRP	EPA 8270D	Hexachlorocyclopentadiene	SCM	MN	
RCRP	EPA 8270D	Hexachlorocyclopentadiene	NPW	MN	
RCRP	EPA 8270D	Hexachloroethane	NPW	MN	
RCRP	EPA 8270D	Hexachloroethane	SCM	MN	
RCRP	EPA 8270D	Indeno(1,2,3-cd) pyrene	SCM	MN	
RCRP	EPA 8270D	Indeno(1,2,3-cd) pyrene	NPW	MN	
RCRP	EPA 8270D	Isophorone	SCM	MN	
RCRP	EPA 8270D	Isophorone	NPW	MN	
RCRP	EPA 8270D	n-Nitrosodi-n-propylamine	NPW	MN	
RCRP	EPA 8270D	n-Nitrosodi-n-propylamine	SCM	MN	
RCRP	EPA 8270D	n-Nitrosodimethylamine	SCM	MN	
RCRP	EPA 8270D	n-Nitrosodimethylamine	NPW	MN	
RCRP	EPA 8270D	n-Nitrosodiphenylamine	NPW	MN	
RCRP	EPA 8270D	n-Nitrosodiphenylamine	SCM	MN	
RCRP	EPA 8270D	Naphthalene	NPW	MN	
RCRP	EPA 8270D	Naphthalene	SCM	MN	
RCRP	EPA 8270D	Nitrobenzene	NPW	MN	
RCRP	EPA 8270D	Nitrobenzene	SCM	MN	
RCRP	EPA 8270D	Pentachlorophenol	NPW	MN	
RCRP	EPA 8270D	Pentachlorophenol	SCM	MN	
RCRP	EPA 8270D	Phenanthrene	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270D	Phenanthrene	SCM	MN	
RCRP	EPA 8270D	Phenol	NPW	MN	
RCRP	EPA 8270D	Phenol	SCM	MN	
RCRP	EPA 8270D	Pyrene	SCM	MN	
RCRP	EPA 8270D	Pyrene	NPW	MN	
RCRP	EPA 8270D	Pyridine	NPW	MN	
RCRP	EPA 8270D	Pyridine	SCM	MN	

EPA 8270D SIM

Preparation Techniques: Extraction, ultrasonic; Extraction, separatory funnel liquid-liquid (LLE); Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270D SIM	1-Methylnaphthalene	NPW	MN	
RCRP	EPA 8270D SIM	1-Methylnaphthalene	SCM	MN	
RCRP	EPA 8270D SIM	2-Chloronaphthalene	NPW	MN	
RCRP	EPA 8270D SIM	2-Chloronaphthalene	SCM	MN	
RCRP	EPA 8270D SIM	2-Methylnaphthalene	NPW	MN	
RCRP	EPA 8270D SIM	2-Methylnaphthalene	SCM	MN	
RCRP	EPA 8270D SIM	Acenaphthene	NPW	MN	
RCRP	EPA 8270D SIM	Acenaphthene	SCM	MN	
RCRP	EPA 8270D SIM	Acenaphthylene	SCM	MN	
RCRP	EPA 8270D SIM	Acenaphthylene	NPW	MN	
RCRP	EPA 8270D SIM	Anthracene	SCM	MN	
RCRP	EPA 8270D SIM	Anthracene	NPW	MN	
RCRP	EPA 8270D SIM	Benzo(a)anthracene	SCM	MN	
RCRP	EPA 8270D SIM	Benzo(a)anthracene	NPW	MN	
RCRP	EPA 8270D SIM	Benzo(a)pyrene	NPW	MN	
RCRP	EPA 8270D SIM	Benzo(a)pyrene	SCM	MN	
RCRP	EPA 8270D SIM	Benzo(g,h,i)perylene	SCM	MN	
RCRP	EPA 8270D SIM	Benzo(g,h,i)perylene	NPW	MN	
RCRP	EPA 8270D SIM	Benzo(k)fluoranthene	NPW	MN	
RCRP	EPA 8270D SIM	Benzo(k)fluoranthene	SCM	MN	
RCRP	EPA 8270D SIM	Benzo[b]fluoranthene	NPW	MN	
RCRP	EPA 8270D SIM	Benzo[b]fluoranthene	SCM	MN	
RCRP	EPA 8270D SIM	Chrysene	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8270D SIM	Chrysene	NPW	MN	
RCRP	EPA 8270D SIM	Dibenz(a,h) anthracene	SCM	MN	
RCRP	EPA 8270D SIM	Dibenz(a,h) anthracene	NPW	MN	
RCRP	EPA 8270D SIM	Dibenzofuran	SCM	MN	
RCRP	EPA 8270D SIM	Dibenzofuran	NPW	MN	
RCRP	EPA 8270D SIM	Fluoranthene	NPW	MN	
RCRP	EPA 8270D SIM	Fluoranthene	SCM	MN	
RCRP	EPA 8270D SIM	Fluorene	SCM	MN	
RCRP	EPA 8270D SIM	Fluorene	NPW	MN	
RCRP	EPA 8270D SIM	Indeno(1,2,3-cd) pyrene	SCM	MN	
RCRP	EPA 8270D SIM	Indeno(1,2,3-cd) pyrene	NPW	MN	
RCRP	EPA 8270D SIM	Naphthalene	NPW	MN	
RCRP	EPA 8270D SIM	Naphthalene	SCM	MN	
RCRP	EPA 8270D SIM	Phenanthrene	NPW	MN	
RCRP	EPA 8270D SIM	Phenanthrene	SCM	MN	
RCRP	EPA 8270D SIM	Pyrene	NPW	MN	
RCRP	EPA 8270D SIM	Pyrene	SCM	MN	
RCRP	EPA 8270D SIM	Quinoline	SCM	MN	
RCRP	EPA 8270D SIM	Quinoline	NPW	MN	

EPA 8280B

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE);

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8280B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	SCM	MN	
RCRP	EPA 8280B	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	NPW	MN	
RCRP	EPA 8280B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	SCM	MN	
RCRP	EPA 8280B	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	NPW	MN	
RCRP	EPA 8280B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	SCM	MN	
RCRP	EPA 8280B	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	NPW	MN	
RCRP	EPA 8280B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	NPW	MN	
RCRP	EPA 8280B	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8280B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	NPW	MN	
RCRP	EPA 8280B	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	SCM	MN	
RCRP	EPA 8280B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	NPW	MN	
RCRP	EPA 8280B	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 8280B	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	NPW	MN	
RCRP	EPA 8280B	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 8280B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	NPW	MN	
RCRP	EPA 8280B	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 8280B	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 8280B	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	NPW	MN	
RCRP	EPA 8280B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	NPW	MN	
RCRP	EPA 8280B	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	SCM	MN	
RCRP	EPA 8280B	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	NPW	MN	
RCRP	EPA 8280B	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	SCM	MN	
RCRP	EPA 8280B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	SCM	MN	
RCRP	EPA 8280B	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	NPW	MN	
RCRP	EPA 8280B	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	SCM	MN	
RCRP	EPA 8280B	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	NPW	MN	
RCRP	EPA 8280B	2,3,4,6,7,8-Hexachlorodibenzofuran	NPW	MN	
RCRP	EPA 8280B	2,3,4,6,7,8-Hexachlorodibenzofuran	SCM	MN	
RCRP	EPA 8280B	2,3,4,7,8-Pentachlorodibenzofuran	SCM	MN	
RCRP	EPA 8280B	2,3,4,7,8-Pentachlorodibenzofuran	NPW	MN	
RCRP	EPA 8280B	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	NPW	MN	
RCRP	EPA 8280B	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	SCM	MN	
RCRP	EPA 8280B	2,3,7,8-Tetrachlorodibenzofuran	SCM	MN	
RCRP	EPA 8280B	2,3,7,8-Tetrachlorodibenzofuran	NPW	MN	
RCRP	EPA 8280B	Total HpCDD	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8280B	Total HpCDD	NPW	MN	
RCRP	EPA 8280B	Total HpCDF	SCM	MN	
RCRP	EPA 8280B	Total HpCDF	NPW	MN	
RCRP	EPA 8280B	Total HxCDD	SCM	MN	
RCRP	EPA 8280B	Total HxCDD	NPW	MN	
RCRP	EPA 8280B	Total HxCDF	NPW	MN	
RCRP	EPA 8280B	Total HxCDF	SCM	MN	
RCRP	EPA 8280B	Total PeCDD	NPW	MN	
RCRP	EPA 8280B	Total PeCDD	SCM	MN	
RCRP	EPA 8280B	Total PeCDF	SCM	MN	
RCRP	EPA 8280B	Total PeCDF	NPW	MN	
RCRP	EPA 8280B	Total TCDD	NPW	MN	
RCRP	EPA 8280B	Total TCDD	SCM	MN	
RCRP	EPA 8280B	Total TCDF	NPW	MN	
RCRP	EPA 8280B	Total TCDF	SCM	MN	

EPA 8290

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	SCM	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	NPW	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	NPW	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	SCM	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	NPW	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	SCM	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	SCM	MN	
RCRP	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	SCM	MN	
RCRP	EPA 8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	NPW	MN	
RCRP	EPA 8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	NPW	MN	
RCRP	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	NPW	MN	
RCRP	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	NPW	MN	
RCRP	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	NPW	MN	
RCRP	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	SCM	MN	
RCRP	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	NPW	MN	
RCRP	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	NPW	MN	
RCRP	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	SCM	MN	
RCRP	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	NPW	MN	
RCRP	EPA 8290	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	TISSUE	MN	
RCRP	EPA 8290	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	NPW	MN	
RCRP	EPA 8290	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	SCM	MN	
RCRP	EPA 8290	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	TISSUE	MN	
RCRP	EPA 8290	2,3,4,6,7,8-Hexachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 8290	2,3,4,6,7,8-Hexachlorodibenzofuran	NPW	MN	
RCRP	EPA 8290	2,3,4,6,7,8-Hexachlorodibenzofuran	SCM	MN	
RCRP	EPA 8290	2,3,4,7,8-Pentachlorodibenzofuran	NPW	MN	
RCRP	EPA 8290	2,3,4,7,8-Pentachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 8290	2,3,4,7,8-Pentachlorodibenzofuran	SCM	MN	
RCRP	EPA 8290	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	NPW	MN	
RCRP	EPA 8290	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	TISSUE	MN	
RCRP	EPA 8290	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	SCM	MN	
RCRP	EPA 8290	2,3,7,8-Tetrachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 8290	2,3,7,8-Tetrachlorodibenzofuran	NPW	MN	
RCRP	EPA 8290	2,3,7,8-Tetrachlorodibenzofuran	SCM	MN	
RCRP	EPA 8290	Total Heptachlorodibenzo-p-dioxin (HpCDD, Total)	TISSUE	MN	
RCRP	EPA 8290	Total Heptachlorodibenzofuran (HpCDF, Total)	TISSUE	MN	
RCRP	EPA 8290	Total Hexachlorodibenzo-p-dioxin (HxCDD, Total)	TISSUE	MN	
RCRP	EPA 8290	Total Hexachlorodibenzofuran (HxCDF, Total)	TISSUE	MN	
RCRP	EPA 8290	Total Hpcdd	NPW	MN	
RCRP	EPA 8290	Total Hpcdd	SCM	MN	
RCRP	EPA 8290	Total Hpcdf	NPW	MN	
RCRP	EPA 8290	Total Hpcdf	SCM	MN	
RCRP	EPA 8290	Total Hxcdd	SCM	MN	
RCRP	EPA 8290	Total Hxcdd	NPW	MN	
RCRP	EPA 8290	Total Hxcdf	NPW	MN	
RCRP	EPA 8290	Total Hxcdf	SCM	MN	
RCRP	EPA 8290	Total Pecdd	NPW	MN	
RCRP	EPA 8290	Total Pecdd	SCM	MN	
RCRP	EPA 8290	Total Pecdf	NPW	MN	
RCRP	EPA 8290	Total Pecdf	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290	Total Pentachlorodibenzo-p-dioxin (PeCDD, Total)	TISSUE	MN	
RCRP	EPA 8290	Total Pentachlorodibenzofuran (PeCDF, Total)	TISSUE	MN	
RCRP	EPA 8290	Total TCDD	NPW	MN	
RCRP	EPA 8290	Total TCDD	SCM	MN	
RCRP	EPA 8290	Total TCDF	SCM	MN	
RCRP	EPA 8290	Total TCDF	NPW	MN	
RCRP	EPA 8290	Total Tetrachlorodibenzo-p-dioxin (TCDD, Total)	TISSUE	MN	
RCRP	EPA 8290	Total Tetrachlorodibenzofuran (TCDF, Total)	TISSUE	MN	

EPA 8290A

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290A	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	NPW	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	SCM	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	NPW	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	SCM	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	SCM	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	NPW	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	SCM	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	NPW	MN	
RCRP	EPA 8290A	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290A	1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	SCM	MN	
RCRP	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	NPW	MN	
RCRP	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	NPW	MN	
RCRP	EPA 8290A	1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	NPW	MN	
RCRP	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-Hxcdd)	SCM	MN	
RCRP	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	NPW	MN	
RCRP	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-Hxcdf)	SCM	MN	
RCRP	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	NPW	MN	
RCRP	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	SCM	MN	
RCRP	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-Hxcdd)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	NPW	MN	
RCRP	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-Hxcdf)	SCM	MN	
RCRP	EPA 8290A	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	NPW	MN	
RCRP	EPA 8290A	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	SCM	MN	
RCRP	EPA 8290A	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-Pecdd)	TISSUE	MN	
RCRP	EPA 8290A	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	SCM	MN	
RCRP	EPA 8290A	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	NPW	MN	
RCRP	EPA 8290A	1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-Pecdf)	TISSUE	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290A	2,3,4,6,7,8-Hexachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 8290A	2,3,4,6,7,8-Hexachlorodibenzofuran	SCM	MN	
RCRP	EPA 8290A	2,3,4,6,7,8-Hexachlorodibenzofuran	NPW	MN	
RCRP	EPA 8290A	2,3,4,7,8-Pentachlorodibenzofuran	NPW	MN	
RCRP	EPA 8290A	2,3,4,7,8-Pentachlorodibenzofuran	SCM	MN	
RCRP	EPA 8290A	2,3,4,7,8-Pentachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 8290A	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	TISSUE	MN	
RCRP	EPA 8290A	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	SCM	MN	
RCRP	EPA 8290A	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	NPW	MN	
RCRP	EPA 8290A	2,3,7,8-Tetrachlorodibenzofuran	TISSUE	MN	
RCRP	EPA 8290A	2,3,7,8-Tetrachlorodibenzofuran	NPW	MN	
RCRP	EPA 8290A	2,3,7,8-Tetrachlorodibenzofuran	SCM	MN	
RCRP	EPA 8290A	Total Heptachlorodibenzo-p-dioxin (HpCDD, Total)	NPW	MN	
RCRP	EPA 8290A	Total Heptachlorodibenzo-p-dioxin (HpCDD, Total)	SCM	MN	
RCRP	EPA 8290A	Total Heptachlorodibenzofuran (HpCDF, Total)	NPW	MN	
RCRP	EPA 8290A	Total Heptachlorodibenzofuran (HpCDF, Total)	SCM	MN	
RCRP	EPA 8290A	Total Hexachlorodibenzo-p-dioxin (HxCDD, Total)	NPW	MN	
RCRP	EPA 8290A	Total Hexachlorodibenzo-p-dioxin (HxCDD, Total)	SCM	MN	
RCRP	EPA 8290A	Total Hexachlorodibenzofuran (HxCDF, Total)	NPW	MN	
RCRP	EPA 8290A	Total Hexachlorodibenzofuran (HxCDF, Total)	SCM	MN	
RCRP	EPA 8290A	Total HpCDD	TISSUE	MN	
RCRP	EPA 8290A	Total HpCDF	TISSUE	MN	
RCRP	EPA 8290A	Total HxCDD	TISSUE	MN	
RCRP	EPA 8290A	Total HxCDF	TISSUE	MN	
RCRP	EPA 8290A	Total PeCDD	TISSUE	MN	
RCRP	EPA 8290A	Total PeCDF	TISSUE	MN	
RCRP	EPA 8290A	Total Pentachlorodibenzo-p-dioxin (PeCDD, Total)	SCM	MN	
RCRP	EPA 8290A	Total Pentachlorodibenzo-p-dioxin (PeCDD, Total)	NPW	MN	
RCRP	EPA 8290A	Total Pentachlorodibenzofuran (PeCDF, Total)	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8290A	Total Pentachlorodibenzofuran (PeCDF, Total)	NPW	MN	
RCRP	EPA 8290A	Total TCDD	TISSUE	MN	
RCRP	EPA 8290A	Total TCDF	TISSUE	MN	
RCRP	EPA 8290A	Total Tetrachlorodibenzo-p-dioxin (TCDD, Total)	NPW	MN	
RCRP	EPA 8290A	Total Tetrachlorodibenzo-p-dioxin (TCDD, Total)	SCM	MN	
RCRP	EPA 8290A	Total Tetrachlorodibenzofuran (TCDF, Total)	SCM	MN	
RCRP	EPA 8290A	Total Tetrachlorodibenzofuran (TCDF, Total)	NPW	MN	

EPA 9095B

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 9095B	Paint Filter Liquids Test	SCM	MN	

EPA 8015B

Preparation Techniques: Extraction, ultrasonic; Extraction, separatory funnel liquid-liquid (LLE); Purge and trap;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8015B	Diesel range organics (DRO)	SCM	MN	
RCRP	EPA 8015B	Diesel range organics (DRO)	NPW	MN	
RCRP	EPA 8015B	Gasoline range organics (GRO)	NPW	MN	
RCRP	EPA 8015B	Gasoline range organics (GRO)	SCM	MN	

EPA 8015C

Preparation Techniques: Extraction, ultrasonic; Extraction, separatory funnel liquid-liquid (LLE); Purge and trap;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8015C	Diesel range organics (DRO)	NPW	MN	
RCRP	EPA 8015C	Diesel range organics (DRO)	SCM	MN	
RCRP	EPA 8015C	Gasoline range organics (GRO)	SCM	MN	
RCRP	EPA 8015C	Gasoline range organics (GRO)	NPW	MN	

EPA 8021B

Preparation Techniques: Purge and trap;

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8021B	1,2,4-Trimethylbenzene	SCM	MN	
RCRP	EPA 8021B	1,2,4-Trimethylbenzene	NPW	MN	
RCRP	EPA 8021B	1,3,5-Trimethylbenzene	NPW	MN	
RCRP	EPA 8021B	1,3,5-Trimethylbenzene	SCM	MN	
RCRP	EPA 8021B	Benzene	NPW	MN	
RCRP	EPA 8021B	Benzene	SCM	MN	
RCRP	EPA 8021B	Ethylbenzene	NPW	MN	
RCRP	EPA 8021B	Ethylbenzene	SCM	MN	
RCRP	EPA 8021B	m+p-xylene	SCM	MN	
RCRP	EPA 8021B	m+p-xylene	NPW	MN	
RCRP	EPA 8021B	Methyl tert-butyl ether (MTBE)	SCM	MN	
RCRP	EPA 8021B	Methyl tert-butyl ether (MTBE)	NPW	MN	
RCRP	EPA 8021B	o-Xylene	SCM	MN	
RCRP	EPA 8021B	o-Xylene	NPW	MN	
RCRP	EPA 8021B	Toluene	NPW	MN	
RCRP	EPA 8021B	Toluene	SCM	MN	

EPA 8260B

Preparation Techniques: Extraction, EPA 1312 SPLP, zero headspace (ZHE); Purge and trap; Extraction, EPA 1311 TCLP, zero headspace (ZHE);

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8260B	1,1,1,2-Tetrachloroethane	NPW	MN	
RCRP	EPA 8260B	1,1,1,2-Tetrachloroethane	SCM	MN	
RCRP	EPA 8260B	1,1,1-Trichloroethane	NPW	MN	
RCRP	EPA 8260B	1,1,1-Trichloroethane	SCM	MN	
RCRP	EPA 8260B	1,1,2,2-Tetrachloroethane	NPW	MN	
RCRP	EPA 8260B	1,1,2,2-Tetrachloroethane	SCM	MN	
RCRP	EPA 8260B	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	SCM	MN	
RCRP	EPA 8260B	1,1,2-Trichloroethane	SCM	MN	
RCRP	EPA 8260B	1,1,2-Trichloroethane	NPW	MN	
RCRP	EPA 8260B	1,1-Dichloroethane	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8260B	1,1-Dichloroethane	SCM	MN	
RCRP	EPA 8260B	1,1-Dichloroethylene	NPW	MN	
RCRP	EPA 8260B	1,1-Dichloroethylene	SCM	MN	
RCRP	EPA 8260B	1,1-Dichloropropene	NPW	MN	
RCRP	EPA 8260B	1,1-Dichloropropene	SCM	MN	
RCRP	EPA 8260B	1,2,3-Trichlorobenzene	NPW	MN	
RCRP	EPA 8260B	1,2,3-Trichlorobenzene	SCM	MN	
RCRP	EPA 8260B	1,2,3-Trichloropropane	SCM	MN	
RCRP	EPA 8260B	1,2,3-Trichloropropane	NPW	MN	
RCRP	EPA 8260B	1,2,4-Trichlorobenzene	SCM	MN	
RCRP	EPA 8260B	1,2,4-Trichlorobenzene	NPW	MN	
RCRP	EPA 8260B	1,2,4-Trimethylbenzene	NPW	MN	
RCRP	EPA 8260B	1,2,4-Trimethylbenzene	SCM	MN	
RCRP	EPA 8260B	1,2-Dibromo-3-chloropropane (DBCP)	NPW	MN	
RCRP	EPA 8260B	1,2-Dibromo-3-chloropropane (DBCP)	SCM	MN	
RCRP	EPA 8260B	1,2-Dibromoethane (EDB, Ethylene dibromide)	NPW	MN	
RCRP	EPA 8260B	1,2-Dibromoethane (EDB, Ethylene dibromide)	SCM	MN	
RCRP	EPA 8260B	1,2-Dichlorobenzene	NPW	MN	
RCRP	EPA 8260B	1,2-Dichlorobenzene	SCM	MN	
RCRP	EPA 8260B	1,2-Dichloroethane (Ethylene dichloride)	SCM	MN	
RCRP	EPA 8260B	1,2-Dichloroethane (Ethylene dichloride)	NPW	MN	
RCRP	EPA 8260B	1,2-Dichloropropane	NPW	MN	
RCRP	EPA 8260B	1,2-Dichloropropane	SCM	MN	
RCRP	EPA 8260B	1,3,5-Trimethylbenzene	NPW	MN	
RCRP	EPA 8260B	1,3,5-Trimethylbenzene	SCM	MN	
RCRP	EPA 8260B	1,3-Dichlorobenzene	NPW	MN	
RCRP	EPA 8260B	1,3-Dichlorobenzene	SCM	MN	
RCRP	EPA 8260B	1,3-Dichloropropane	NPW	MN	
RCRP	EPA 8260B	1,3-Dichloropropane	SCM	MN	
RCRP	EPA 8260B	1,4-Dichlorobenzene	SCM	MN	
RCRP	EPA 8260B	1,4-Dichlorobenzene	NPW	MN	
RCRP	EPA 8260B	1,4-Dioxane (1,4- Diethyleneoxide)	NPW	MN	
RCRP	EPA 8260B	1,4-Dioxane (1,4- Diethyleneoxide)	SCM	MN	
RCRP	EPA 8260B	2,2-Dichloropropane	NPW	MN	
RCRP	EPA 8260B	2,2-Dichloropropane	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8260B	2-Butanone (Methyl ethyl ketone, MEK)	NPW	MN	
RCRP	EPA 8260B	2-Butanone (Methyl ethyl ketone, MEK)	SCM	MN	
RCRP	EPA 8260B	2-Chloroethyl vinyl ether	NPW	MN	
RCRP	EPA 8260B	2-Chloroethyl vinyl ether	SCM	MN	
RCRP	EPA 8260B	2-Chlorotoluene	NPW	MN	
RCRP	EPA 8260B	2-Chlorotoluene	SCM	MN	
RCRP	EPA 8260B	2-Hexanone	NPW	MN	
RCRP	EPA 8260B	2-Hexanone	SCM	MN	
RCRP	EPA 8260B	2-Methylnaphthalene	SCM	MN	
RCRP	EPA 8260B	2-Nitropropane	NPW	MN	
RCRP	EPA 8260B	4-Chlorotoluene	NPW	MN	
RCRP	EPA 8260B	4-Chlorotoluene	SCM	MN	
RCRP	EPA 8260B	4-Isopropyltoluene (p-Cymene)	NPW	MN	
RCRP	EPA 8260B	4-Isopropyltoluene (p-Cymene)	SCM	MN	
RCRP	EPA 8260B	4-Methyl-2-pentanone (MIBK)	NPW	MN	
RCRP	EPA 8260B	4-Methyl-2-pentanone (MIBK)	SCM	MN	
RCRP	EPA 8260B	Acetone	NPW	MN	
RCRP	EPA 8260B	Acetone	SCM	MN	
RCRP	EPA 8260B	Acetonitrile	NPW	MN	
RCRP	EPA 8260B	Acrolein (Propenal)	NPW	MN	
RCRP	EPA 8260B	Acrolein (Propenal)	SCM	MN	
RCRP	EPA 8260B	Acrylonitrile	NPW	MN	
RCRP	EPA 8260B	Acrylonitrile	SCM	MN	
RCRP	EPA 8260B	Allyl chloride (3-Chloropropene)	SCM	MN	
RCRP	EPA 8260B	Allyl chloride (3-Chloropropene)	NPW	MN	
RCRP	EPA 8260B	Benzene	SCM	MN	
RCRP	EPA 8260B	Benzene	NPW	MN	
RCRP	EPA 8260B	Bromobenzene	NPW	MN	
RCRP	EPA 8260B	Bromobenzene	SCM	MN	
RCRP	EPA 8260B	Bromochloromethane	SCM	MN	
RCRP	EPA 8260B	Bromochloromethane	NPW	MN	
RCRP	EPA 8260B	Bromodichloromethane	SCM	MN	
RCRP	EPA 8260B	Bromodichloromethane	NPW	MN	
RCRP	EPA 8260B	Bromoform	NPW	MN	
RCRP	EPA 8260B	Bromoform	SCM	MN	
RCRP	EPA 8260B	Carbon disulfide	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8260B	Carbon disulfide	NPW	MN	
RCRP	EPA 8260B	Carbon tetrachloride	NPW	MN	
RCRP	EPA 8260B	Carbon tetrachloride	SCM	MN	
RCRP	EPA 8260B	Chlorobenzene	NPW	MN	
RCRP	EPA 8260B	Chlorobenzene	SCM	MN	
RCRP	EPA 8260B	Chlorodibromomethane	NPW	MN	
RCRP	EPA 8260B	Chlorodibromomethane	SCM	MN	
RCRP	EPA 8260B	Chloroethane (Ethyl chloride)	NPW	MN	
RCRP	EPA 8260B	Chloroethane (Ethyl chloride)	SCM	MN	
RCRP	EPA 8260B	Chloroform	NPW	MN	
RCRP	EPA 8260B	Chloroform	SCM	MN	
RCRP	EPA 8260B	Chloroprene (2-Chloro-1,3-butadiene)	NPW	MN	
RCRP	EPA 8260B	cis & trans-1,2-Dichloroethene	SCM	MN	
RCRP	EPA 8260B	cis-1,2-Dichloroethylene	NPW	MN	
RCRP	EPA 8260B	cis-1,2-Dichloroethylene	SCM	MN	
RCRP	EPA 8260B	cis-1,3-Dichloropropene	NPW	MN	
RCRP	EPA 8260B	cis-1,3-Dichloropropene	SCM	MN	
RCRP	EPA 8260B	cis-1,4-Dichloro-2-butene	NPW	MN	
RCRP	EPA 8260B	Di-isopropylether (DIPE)	SCM	MN	
RCRP	EPA 8260B	Dibromomethane (Methylene bromide)	SCM	MN	
RCRP	EPA 8260B	Dibromomethane (Methylene bromide)	NPW	MN	
RCRP	EPA 8260B	Dichlorodifluoromethane (Freon-12)	SCM	MN	
RCRP	EPA 8260B	Dichlorodifluoromethane (Freon-12)	NPW	MN	
RCRP	EPA 8260B	Diethyl ether	NPW	MN	
RCRP	EPA 8260B	Diethyl ether	SCM	MN	
RCRP	EPA 8260B	Ethanol	NPW	MN	
RCRP	EPA 8260B	Ethanol	SCM	MN	
RCRP	EPA 8260B	Ethyl acetate	NPW	MN	
RCRP	EPA 8260B	Ethyl methacrylate	NPW	MN	
RCRP	EPA 8260B	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	SCM	MN	
RCRP	EPA 8260B	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	SCM	MN	User Defined S-MN-O-521 Rev. 27
RCRP	EPA 8260B	Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	NPW	MN	User Defined S-MN-O-521 Rev. 27
RCRP	EPA 8260B	Ethylbenzene	SCM	MN	
RCRP	EPA 8260B	Ethylbenzene	NPW	MN	
RCRP	EPA 8260B	Hexachlorobutadiene	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8260B	Hexachlorobutadiene	SCM	MN	
RCRP	EPA 8260B	Iodomethane (Methyl iodide)	NPW	MN	
RCRP	EPA 8260B	Iodomethane (Methyl iodide)	SCM	MN	
RCRP	EPA 8260B	Isobutyl alcohol (2-Methyl-1-propanol)	NPW	MN	
RCRP	EPA 8260B	Isobutyl alcohol (2-Methyl-1-propanol)	SCM	MN	
RCRP	EPA 8260B	Isopropyl alcohol (2-Propanol, Isopropanol)	SCM	MN	
RCRP	EPA 8260B	Isopropyl alcohol (2-Propanol, Isopropanol)	NPW	MN	
RCRP	EPA 8260B	Isopropylbenzene	NPW	MN	
RCRP	EPA 8260B	Isopropylbenzene	SCM	MN	
RCRP	EPA 8260B	m+p-xylene	SCM	MN	
RCRP	EPA 8260B	m+p-xylene	NPW	MN	
RCRP	EPA 8260B	Methacrylonitrile	NPW	MN	
RCRP	EPA 8260B	Methyl bromide (Bromomethane)	SCM	MN	
RCRP	EPA 8260B	Methyl bromide (Bromomethane)	NPW	MN	
RCRP	EPA 8260B	Methyl chloride (Chloromethane)	NPW	MN	
RCRP	EPA 8260B	Methyl chloride (Chloromethane)	SCM	MN	
RCRP	EPA 8260B	Methyl methacrylate	NPW	MN	
RCRP	EPA 8260B	Methyl tert-butyl ether (MTBE)	NPW	MN	
RCRP	EPA 8260B	Methyl tert-butyl ether (MTBE)	SCM	MN	
RCRP	EPA 8260B	Methylene chloride (Dichloromethane)	NPW	MN	
RCRP	EPA 8260B	Methylene chloride (Dichloromethane)	SCM	MN	
RCRP	EPA 8260B	n-Butyl alcohol (1-Butanol, n-Butanol)	NPW	MN	
RCRP	EPA 8260B	n-Butylbenzene	SCM	MN	
RCRP	EPA 8260B	n-Butylbenzene	NPW	MN	
RCRP	EPA 8260B	n-Hexane	SCM	MN	
RCRP	EPA 8260B	n-Hexane	NPW	MN	
RCRP	EPA 8260B	n-Propylbenzene	NPW	MN	
RCRP	EPA 8260B	n-Propylbenzene	SCM	MN	
RCRP	EPA 8260B	Naphthalene	SCM	MN	
RCRP	EPA 8260B	Naphthalene	NPW	MN	
RCRP	EPA 8260B	o-Xylene	SCM	MN	
RCRP	EPA 8260B	o-Xylene	NPW	MN	
RCRP	EPA 8260B	Propionitrile (Ethyl cyanide)	NPW	MN	
RCRP	EPA 8260B	sec-Butylbenzene	NPW	MN	
RCRP	EPA 8260B	sec-Butylbenzene	SCM	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA 8260B	Styrene	NPW	MN	
RCRP	EPA 8260B	Styrene	SCM	MN	
RCRP	EPA 8260B	T-amylmethylether (TAME)	NPW	MN	User Defined S-MN-O-521 Rev. 27
RCRP	EPA 8260B	T-amylmethylether (TAME)	SCM	MN	User Defined S-MN-O-521 Rev. 27
RCRP	EPA 8260B	tert-Butyl alcohol	SCM	MN	
RCRP	EPA 8260B	tert-Butyl alcohol	NPW	MN	
RCRP	EPA 8260B	tert-Butylbenzene	NPW	MN	
RCRP	EPA 8260B	tert-Butylbenzene	SCM	MN	
RCRP	EPA 8260B	Tetrachloroethylene (Perchloroethylene)	NPW	MN	
RCRP	EPA 8260B	Tetrachloroethylene (Perchloroethylene)	SCM	MN	
RCRP	EPA 8260B	Tetrahydrofuran (THF)	SCM	MN	
RCRP	EPA 8260B	Tetrahydrofuran (THF)	NPW	MN	
RCRP	EPA 8260B	Toluene	NPW	MN	
RCRP	EPA 8260B	Toluene	SCM	MN	
RCRP	EPA 8260B	trans-1,2-Dichloroethylene	NPW	MN	
RCRP	EPA 8260B	trans-1,2-Dichloroethylene	SCM	MN	
RCRP	EPA 8260B	trans-1,3-Dichloropropylene	SCM	MN	
RCRP	EPA 8260B	trans-1,3-Dichloropropylene	NPW	MN	
RCRP	EPA 8260B	trans-1,4-Dichloro-2-butene	NPW	MN	
RCRP	EPA 8260B	trans-1,4-Dichloro-2-butene	SCM	MN	
RCRP	EPA 8260B	Trichloroethene (Trichloroethylene)	NPW	MN	
RCRP	EPA 8260B	Trichloroethene (Trichloroethylene)	SCM	MN	
RCRP	EPA 8260B	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	SCM	MN	
RCRP	EPA 8260B	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	NPW	MN	
RCRP	EPA 8260B	Vinyl acetate	SCM	MN	
RCRP	EPA 8260B	Vinyl acetate	NPW	MN	
RCRP	EPA 8260B	Vinyl chloride	SCM	MN	
RCRP	EPA 8260B	Vinyl chloride	NPW	MN	
RCRP	EPA 8260B	Xylene (total)	SCM	MN	

EPA RSK-175 (GC/FID)

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA RSK-175 (GC/FID)	Ethane	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
RCRP	EPA RSK-175 (GC/FID)	Ethene	NPW	MN	
RCRP	EPA RSK-175 (GC/FID)	Methane	NPW	MN	

Safe Drinking Water Program

EPA 180.1

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 180.1	Turbidity	DW	MN	

EPA 300.0

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 300.0	Chloride	DW	MN	
SDWP	EPA 300.0	Fluoride	DW	MN	
SDWP	EPA 300.0	Nitrate	DW	MN	
SDWP	EPA 300.0	Nitrite	DW	MN	
SDWP	EPA 300.0	Sulfate	DW	MN	

EPA 353.2

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 353.2	Nitrate	DW	MN	
SDWP	EPA 353.2	Nitrite	DW	MN	

SM 2320 B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 2320 B-97	Alkalinity as $CaCO_3$	DW	MN	

SM 2340 B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 2340 B-97	Hardness	DW	MN	

SM 2510 B-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 2510 B-97	Conductivity	DW	MN	

SM 2540 C-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 2540 C-97	Residue-filterable (TDS)	DW	MN	

SM 4500-Cl G-93

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 4500-Cl G-93	Total chlorine	DW	MN	

SM 4500-CN^- E-97

Preparation Techniques: Distillation, macro; Distillation, micro; Distillation, MIDI;

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 4500-CN^- E-97	Cyanide	DW	MN	

SM 4500-F^- C-97

Preparation Techniques: N/A;

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 4500-F¯ C-97	Fluoride	DW	MN	

SM 4500-H+ B-96

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 4500-H+ B-96	pH	DW	MN	

SM 4500-NO2¯ B-93

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 4500-NO2¯ B-93	Nitrite	DW	MN	

SM 4500-P E-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 4500-P E-97	Orthophosphate as P	DW	MN	

EPA 200.8

Preparation Techniques: Digestion, hotplate or HotBlock;

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 200.8	Aluminum	DW	MN	
SDWP	EPA 200.8	Antimony	DW	MN	
SDWP	EPA 200.8	Arsenic	DW	MN	
SDWP	EPA 200.8	Barium	DW	MN	
SDWP	EPA 200.8	Beryllium	DW	MN	
SDWP	EPA 200.8	Cadmium	DW	MN	
SDWP	EPA 200.8	Chromium	DW	MN	
SDWP	EPA 200.8	Copper	DW	MN	
SDWP	EPA 200.8	Lead	DW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 200.8	Manganese	DW	MN	
SDWP	EPA 200.8	Mercury	DW	MN	
SDWP	EPA 200.8	Nickel	DW	MN	
SDWP	EPA 200.8	Selenium	DW	MN	
SDWP	EPA 200.8	Silver	DW	MN	
SDWP	EPA 200.8	Thallium	DW	MN	
SDWP	EPA 200.8	Uranium	DW	MN	
SDWP	EPA 200.8	Zinc	DW	MN	

EPA 245.1

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 245.1	Mercury	DW	MN	

SM 9215 B (R2A)-94

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 9215 B (R2A)-94	Heterotrophic plate count	DW	MN	

SM 9223 B (Colilert®)-97

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	SM 9223 B (Colilert®)-97	Escherichia coli	DW	MN	
SDWP	SM 9223 B (Colilert®)-97	Total coliforms	DW	MN	

EPA 1613

Preparation Techniques: Extraction, separatory funnel liquid-liquid (LLE); Extraction, solid phase (SPE); Extraction, automated soxhlet;

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 1613	2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	DW	MN	

EPA 524.2

Preparation Techniques: Purge and trap;

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 524.2	1,1,1,2-Tetrachloroethane	DW	MN	
SDWP	EPA 524.2	1,1,1-Trichloroethane	DW	MN	
SDWP	EPA 524.2	1,1,2,2-Tetrachloroethane	DW	MN	
SDWP	EPA 524.2	1,1,2-Trichloroethane	DW	MN	
SDWP	EPA 524.2	1,1-Dichloroethane	DW	MN	
SDWP	EPA 524.2	1,1-Dichloroethylene	DW	MN	
SDWP	EPA 524.2	1,1-Dichloropropene	DW	MN	
SDWP	EPA 524.2	1,2,3-Trichlorobenzene	DW	MN	
SDWP	EPA 524.2	1,2,3-Trichloropropane	DW	MN	
SDWP	EPA 524.2	1,2,4-Trichlorobenzene	DW	MN	
SDWP	EPA 524.2	1,2,4-Trimethylbenzene	DW	MN	
SDWP	EPA 524.2	1,2-Dichlorobenzene	DW	MN	
SDWP	EPA 524.2	1,2-Dichloroethane (Ethylene dichloride)	DW	MN	
SDWP	EPA 524.2	1,2-Dichloropropane	DW	MN	
SDWP	EPA 524.2	1,3,5-Trichlorobenzene	DW	MN	
SDWP	EPA 524.2	1,3-Dichlorobenzene	DW	MN	
SDWP	EPA 524.2	1,4-Dichlorobenzene	DW	MN	
SDWP	EPA 524.2	2,2-Dichloropropane	DW	MN	
SDWP	EPA 524.2	2-Chlorotoluene	DW	MN	
SDWP	EPA 524.2	4-Chlorotoluene	DW	MN	
SDWP	EPA 524.2	Benzene	DW	MN	
SDWP	EPA 524.2	Bromobenzene	DW	MN	
SDWP	EPA 524.2	Bromochloromethane	DW	MN	
SDWP	EPA 524.2	Bromodichloromethane	DW	MN	
SDWP	EPA 524.2	Bromoform	DW	MN	
SDWP	EPA 524.2	Bromomethane	DW	MN	
SDWP	EPA 524.2	Carbon tetrachloride	DW	MN	
SDWP	EPA 524.2	Chlorobenzene	DW	MN	
SDWP	EPA 524.2	Chlorodibromomethane	DW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
SDWP	EPA 524.2	Chloroethane (Ethyl chloride)	DW	MN	
SDWP	EPA 524.2	Chloroform	DW	MN	
SDWP	EPA 524.2	cis-1,2-Dichloroethylene	DW	MN	
SDWP	EPA 524.2	cis-1,3-Dichloropropene	DW	MN	
SDWP	EPA 524.2	Dibromomethane (Methylene bromide)	DW	MN	
SDWP	EPA 524.2	Dichlorodifluoromethane (Freon-12)	DW	MN	
SDWP	EPA 524.2	Ethylbenzene	DW	MN	
SDWP	EPA 524.2	Hexachlorobutadiene	DW	MN	
SDWP	EPA 524.2	Isopropylbenzene	DW	MN	
SDWP	EPA 524.2	Methyl chloride (Chloromethane)	DW	MN	
SDWP	EPA 524.2	Methyl tert-butyl ether (MTBE)	DW	MN	
SDWP	EPA 524.2	Methylene chloride (Dichloromethane)	DW	MN	
SDWP	EPA 524.2	n-Butylbenzene	DW	MN	
SDWP	EPA 524.2	n-Propylbenzene	DW	MN	
SDWP	EPA 524.2	Naphthalene	DW	MN	
SDWP	EPA 524.2	sec-Butylbenzene	DW	MN	
SDWP	EPA 524.2	Styrene	DW	MN	
SDWP	EPA 524.2	tert-Butylbenzene	DW	MN	
SDWP	EPA 524.2	Tetrachloroethylene (Perchloroethylene)	DW	MN	
SDWP	EPA 524.2	Toluene	DW	MN	
SDWP	EPA 524.2	Total Trihalomethanes	DW	MN	
SDWP	EPA 524.2	trans-1,2-Dichloroethylene	DW	MN	
SDWP	EPA 524.2	trans-1,3-Dichloropropylene	DW	MN	
SDWP	EPA 524.2	Trichloroethene (Trichloroethylene)	DW	MN	
SDWP	EPA 524.2	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	DW	MN	
SDWP	EPA 524.2	Vinyl chloride	DW	MN	
SDWP	EPA 524.2	Xylene (total)	DW	MN	

Underground Storage Tank Program

WI(95) DRO

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
USTP	WI(95) DRO	Diesel range organics (DRO)	NPW	MN	

Program	Method	Analyte	Matrix	Primary	SOP
USTP	WI(95) DRO	Diesel range organics (DRO)	SCM	MN	

EPA TO-15

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
USTP	EPA TO-15	1,1,1-Trichloroethane	AIR	MN	
USTP	EPA TO-15	1,1,2,2-Tetrachloroethane	AIR	MN	
USTP	EPA TO-15	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIR	MN	
USTP	EPA TO-15	1,1,2-Trichloroethane	AIR	MN	
USTP	EPA TO-15	1,1-Dichloroethane	AIR	MN	
USTP	EPA TO-15	1,1-Dichloroethylene	AIR	MN	
USTP	EPA TO-15	1,2,4-Trichlorobenzene	AIR	MN	
USTP	EPA TO-15	1,2,4-Trimethylbenzene	AIR	MN	
USTP	EPA TO-15	1,2-Dibromoethane (EDB, Ethylene dibromide)	AIR	MN	
USTP	EPA TO-15	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon-114)	AIR	MN	
USTP	EPA TO-15	1,2-Dichlorobenzene	AIR	MN	
USTP	EPA TO-15	1,2-Dichloroethane (Ethylene dichloride)	AIR	MN	
USTP	EPA TO-15	1,2-Dichloropropane	AIR	MN	
USTP	EPA TO-15	1,3,5-Trimethylbenzene	AIR	MN	
USTP	EPA TO-15	1,3-Butadiene	AIR	MN	
USTP	EPA TO-15	1,3-Dichlorobenzene	AIR	MN	
USTP	EPA TO-15	1,4-Dichlorobenzene	AIR	MN	
USTP	EPA TO-15	1-Propene	AIR	MN	
USTP	EPA TO-15	2-Butanone (Methyl ethyl ketone, MEK)	AIR	MN	
USTP	EPA TO-15	2-Hexanone	AIR	MN	
USTP	EPA TO-15	4-Ethyltoluene	AIR	MN	
USTP	EPA TO-15	4-Methyl-2-pentanone (MIBK)	AIR	MN	
USTP	EPA TO-15	Acetone	AIR	MN	
USTP	EPA TO-15	Benzene	AIR	MN	
USTP	EPA TO-15	Benzyl chloride	AIR	MN	
USTP	EPA TO-15	Bromodichloromethane	AIR	MN	
USTP	EPA TO-15	Bromoform	AIR	MN	
USTP	EPA TO-15	Carbon disulfide	AIR	MN	

Program	Method	Analyte	Matrix	Primary	SOP
USTP	EPA TO-15	Carbon tetrachloride	AIR	MN	
USTP	EPA TO-15	Chlorobenzene	AIR	MN	
USTP	EPA TO-15	Chlorodibromomethane	AIR	MN	
USTP	EPA TO-15	Chloroethane (Ethyl chloride)	AIR	MN	
USTP	EPA TO-15	Chloroform	AIR	MN	
USTP	EPA TO-15	cis-1,2-Dichloroethylene	AIR	MN	
USTP	EPA TO-15	cis-1,3-Dichloropropene	AIR	MN	
USTP	EPA TO-15	Cyclohexane	AIR	MN	
USTP	EPA TO-15	Dichlorodifluoromethane (Freon-12)	AIR	MN	
USTP	EPA TO-15	Ethanol	AIR	MN	
USTP	EPA TO-15	Ethyl acetate	AIR	MN	
USTP	EPA TO-15	Ethylbenzene	AIR	MN	
USTP	EPA TO-15	Hexachlorobutadiene	AIR	MN	
USTP	EPA TO-15	Isopropyl alcohol (2-Propanol, Isopropanol)	AIR	MN	
USTP	EPA TO-15	m+p-xylene	AIR	MN	
USTP	EPA TO-15	Methyl bromide (Bromomethane)	AIR	MN	
USTP	EPA TO-15	Methyl chloride (Chloromethane)	AIR	MN	
USTP	EPA TO-15	Methyl tert-butyl ether (MTBE)	AIR	MN	
USTP	EPA TO-15	Methylene chloride (Dichloromethane)	AIR	MN	
USTP	EPA TO-15	n-Heptane	AIR	MN	
USTP	EPA TO-15	n-Hexane	AIR	MN	
USTP	EPA TO-15	Naphthalene	AIR	MN	
USTP	EPA TO-15	o-Xylene	AIR	MN	
USTP	EPA TO-15	Styrene	AIR	MN	
USTP	EPA TO-15	Tetrachloroethylene (Perchloroethylene)	AIR	MN	
USTP	EPA TO-15	Tetrahydrofuran (THF)	AIR	MN	
USTP	EPA TO-15	Toluene	AIR	MN	
USTP	EPA TO-15	trans-1,2-Dichloroethylene	AIR	MN	
USTP	EPA TO-15	trans-1,3-Dichloropropylene	AIR	MN	
USTP	EPA TO-15	Trichloroethene (Trichloroethylene)	AIR	MN	
USTP	EPA TO-15	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	AIR	MN	
USTP	EPA TO-15	Vinyl acetate	AIR	MN	
USTP	EPA TO-15	Vinyl chloride	AIR	MN	
USTP	EPA TO-15	Xylene (total)	AIR	MN	

WI(95) GRO

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
USTP	WI(95) GRO	Gasoline range organics (GRO)	NPW	MN	
USTP	WI(95) GRO	Gasoline range organics (GRO)	SCM	MN	

WI(95) GRO

Preparation Techniques: N/A

Program	Method	Analyte	Matrix	Primary	SOP
USTP	WI(95) GRO	Petroleum Volatile Organic Compounds (PVOC)	SCM	MN	
USTP	WI(95) GRO	Petroleum Volatile Organic Compounds (PVOC)	NPW	MN	

Note: Method beginning with "SM" refer to the approved editions of Standard methods for the Examination of Water and Wastes. Approved methods are listed in the applicable parts of Title 40 of the Code of Federal Regulations (including its subsequent Federal Register updates), MN Statutes and Rules, and state-issued permits.

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S Webster St
PO Box 7921
Madison, WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Fax 608-267-3579
TTY Access via relay - 711

March 24, 2016

FID: 999407970

MS. MELANIE OLLILA
PACE ANALYTICAL SERVICES, INC. - MSP
1700 SE ELM ST. SUITE 200
MINNEAPOLIS, MN 55414

Dear Ms. Melanie Ollila:

Enclosed is your new Laboratory Certification or Registration certificate. This certificate supersedes all previous certificates.

YOUR CERTIFICATE IS AN IMPORTANT DOCUMENT. PLEASE REVIEW IT CAREFULLY FOR ERRORS AND COMPARE IT TO YOUR PREVIOUS YEAR'S CERTIFICATE. MAKE SURE THAT THIS CERTIFICATE REFLECTS THE TESTS FOR WHICH YOU APPLIED TO BE CERTIFIED. If you believe your certificate contains errors, contact the Laboratory Certification and Registration Program immediately at (608) 267-7633 or by e-mail at DNRLabCert@wisconsin.gov.

Sincerely,

Steven Geis

Steven Geis, Chief
Environmental Science Services

Scope of Accreditation

Pace Analytical Services, Inc. - MSP
1700 SE Elm St. Suite 200
Minneapolis, MN 55414

Laboratory Id: **999407970**
Expiration Date: **08/31/16**
Issued Date: **03/24/16**

Wisconsin Certification under NR 149
Matrix: Aqueous (Non-potable Water)

Class: General Chemistry
- Alkalinity *by Titration*
- Ammonia as N *by Colorimetry*
- Bromide *by IC*
- Chemical Oxygen Demand (COD) *by Colorimetry*
- Chloride *by Colorimetry*
- Chloride *by IC*
- Hardness, Total as CaCO3 *by ICP*
- Nitrate *by Colorimetry*
- Nitrate *by IC*
- Nitrite *by Colorimetry*
- Nitrite *by IC*
- Oil&Grease, Hexane Ext. Material (HEM) *by Grav-HEM*
- Orthophosphate *by Colorimetry*
- Phenolics, Total *by Colorimetry*
- Phosphorus, Total *by Colorimetry*
- Residue, Filterable (TDS) *by Grav*
- Residue, Nonfilterable (TSS) *by Grav*
- Residue, Total *by Grav*
- Residue, Volatile (TVS) *by Grav*
- Residue, Volatile, Nonfilterable (TVSS) *by Grav*
- Specific Conductance *by ISE*
- Sulfate *by Colorimetry*
- Sulfate *by IC*
- pH *by ISE*

Class: Metals
- Aluminum *by ICP*
- Aluminum *by ICP-MS*
- Antimony *by ICP*
- Antimony *by ICP-MS*
- Arsenic *by ICP*
- Arsenic *by ICP-MS*
- Barium *by ICP*
- Barium *by ICP-MS*
- Beryllium *by ICP*
- Beryllium *by ICP-MS*
- Bismuth *by ICP-MS*
- Boron *by ICP*
- Boron *by ICP-MS*
- Cadmium *by ICP*
- Cadmium *by ICP-MS*
- Calcium *by ICP*
- Chromium (Total) *by ICP*
- Chromium (Total) *by ICP-MS*
- Cobalt *by ICP*
- Cobalt *by ICP-MS*

Class: Metals
- Copper *by ICP*
- Copper *by ICP-MS*
- Iron *by ICP*
- Iron *by ICP-MS*
- Lead *by ICP*
- Lead *by ICP-MS*
- Lithium *by ICP-MS*
- Magnesium *by ICP*
- Magnesium *by ICP-MS*
- Manganese *by ICP*
- Manganese *by ICP-MS*
- Mercury *by Hyd-CVAA*
- Molybdenum *by ICP*
- Molybdenum *by ICP-MS*
- Nickel *by ICP*
- Nickel *by ICP-MS*
- Palladium *by ICP-MS*
- Platinum *by ICP-MS*
- Potassium *by ICP*
- Potassium *by ICP-MS*
- Selenium *by ICP*
- Selenium *by ICP-MS*
- Silicon *by ICP-MS*
- Silver *by ICP*
- Silver *by ICP-MS*
- Sodium *by ICP*
- Sodium *by ICP-MS*
- Strontium *by ICP-MS*
- Thallium *by ICP*
- Thallium *by ICP-MS*
- Tin *by ICP*
- Tin *by ICP-MS*
- Titanium *by ICP*
- Titanium *by ICP-MS*
- Vanadium *by ICP*
- Vanadium *by ICP-MS*
- Zinc *by ICP*
- Zinc *by ICP-MS*

Class: BNA Semivolatiles
- ## SEMIVOLATILES [BNA] (group) *by GC/MS*

Class: PAH - Polynuclear Aromatic Hydrocarbons (BN)
- ## PAH (group) *by GC/MS*

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* Analyte groups are defined and listed at http://dnr.wi.gov by searching keywords "Lab Certification:".

Scope of Accreditation

Pace Analytical Services, Inc. - MSP
1700 SE Elm St. Suite 200
Minneapolis, MN 55414

Laboratory Id: **999407970**
Expiration Date: **08/31/16**
Issued Date: **03/24/16**

Wisconsin Certification under NR 149
Matrix: Aqueous (Non-potable Water)

Class: Pesticides, Organochlorine
PESTICIDES, ORGANOCHLORINE (group) *by GC*
Class: Petroleum Hydrocarbons
PVOC - Petroleum VOCs *by GC*
PVOC - Petroleum VOCs *by GC/MS*
Diesel Range Organics (DRO) *by GC*
Gasoline Range Organics (GRO) *by GC*
Class: PCBs as Aroclors
PCB as AROCLORS (group) *by GC*
Class: PCB Congeners
PCB CONGENERS (group) *by HR-GC/MS*
Class: Dioxins and Furans
DIOXINS & FURANS (group) *by HR-GC/MS*
Class: Volatile Organics
VOLATILE ORGANICS [VOC] (group) *by GC/MS*
Benzene *by GC*
Ethylbenzene *by GC*
Toluene *by GC*
m-Xylene *by GC*
o-Xylene *by GC*
p-Xylene *by GC*

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Scope of Accreditation

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Minneapolis, MN 55414

Laboratory Id: **999407970**
Expiration Date: **08/31/16**
Issued Date: **03/24/16**

Wisconsin Certification under NR 149
Matrix: Potable Water (Drinking Water)

Class: SDWA - Primary Non-metals
Nitrate - EPA 353.2
Nitrite - EPA 353.2
Class: SDWA - Primary Metals
Mercury - EPA 245.1
Class: SDWA - SOC, Dioxin
2,3,7,8-TCDD (Dioxin) - EPA 1613
Class: SDWA - Trihalomethanes
THM (group) - EPA 524.2
Class: SDWA - Volatile Organics
VOCS, REGULATED (group) - EPA 524.2

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Scope of Accreditation

Pace Analytical Services, Inc. - MSP
1700 SE Elm St. Suite 200
Minneapolis, MN 55414

Laboratory Id: **999407970**
Expiration Date: **08/31/16**
Issued Date: **03/24/16**

Wisconsin Certification under NR 149
Matrix: Solid (Waste, Soil & Tissue)

Class: General Chemistry
pH *by ISE*

Class: Metals
Aluminum *by ICP*
Aluminum *by ICP-MS*
Antimony *by ICP*
Antimony *by ICP-MS*
Arsenic *by ICP*
Arsenic *by ICP-MS*
Barium *by ICP*
Barium *by ICP-MS*
Beryllium *by ICP*
Beryllium *by ICP-MS*
Bismuth *by ICP-MS*
Boron *by ICP*
Boron *by ICP-MS*
Cadmium *by ICP*
Cadmium *by ICP-MS*
Calcium *by ICP*
Chromium (Total) *by ICP*
Chromium (Total) *by ICP-MS*
Cobalt *by ICP*
Cobalt *by ICP-MS*
Copper *by ICP*
Copper *by ICP-MS*
Iron *by ICP*
Iron *by ICP-MS*
Lead *by ICP*
Lead *by ICP-MS*
Lithium *by ICP-MS*
Magnesium *by ICP*
Magnesium *by ICP-MS*
Manganese *by ICP*
Manganese *by ICP-MS*
Mercury *by Hyd-CVAA*
Molybdenum *by ICP*
Molybdenum *by ICP-MS*
Nickel *by ICP*
Nickel *by ICP-MS*
Palladium *by ICP-MS*
Platinum *by ICP-MS*
Potassium *by ICP*
Potassium *by ICP-MS*
Selenium *by ICP*
Selenium *by ICP-MS*

Class: Metals
Silver *by ICP*
Silver *by ICP-MS*
Sodium *by ICP*
Sodium *by ICP-MS*
Strontium *by ICP-MS*
Thallium *by ICP*
Thallium *by ICP-MS*
Tin *by ICP*
Tin *by ICP-MS*
Titanium *by ICP*
Titanium *by ICP-MS*
Vanadium *by ICP*
Vanadium *by ICP-MS*
Zinc *by ICP*
Zinc *by ICP-MS*

Class: BNA Semivolatiles
SEMIVOLATILES [BNA] (group) *by GC/MS*

Class: PAH - Polynuclear Aromatic Hydrocarbons (BN)
PAH (group) *by GC/MS*

Class: Pesticides, Organochlorine
PESTICIDES, ORGANOCHLORINE (group) *by GC*

Class: Petroleum Hydrocarbons
PVOC - Petroleum VOCs *by GC*
PVOC - Petroleum VOCs *by GC/MS*
Diesel Range Organics (DRO) *by GC*
Gasoline Range Organics (GRO) *by GC*

Class: PCBs as Aroclors
PCB as AROCLORS (group) *by GC*

Class: PCB Congeners
PCB CONGENERS (group) *by HR-GC/MS*

Class: Dioxins and Furans
DIOXINS & FURANS (group) *by HR-GC/MS*

Class: Volatile Organics
VOLATILE ORGANICS [VOC] (group) *by GC/MS*
Benzene *by GC*
Ethylbenzene *by GC*
Toluene *by GC*
m-Xylene *by GC*
o-Xylene *by GC*
p-Xylene *by GC*

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Scope of Accreditation

Pace Analytical Services, Inc. - MSP
1700 SE Elm St. Suite 200
Minneapolis, MN 55414

Laboratory Id: **999407970**
Expiration Date: **08/31/16**
Issued Date: **03/24/16**

Wisconsin Certification under NR 149
Matrix: Solid (Waste, Soil & Tissue)

Class: Waste Characterization Extractions
SPLP Extraction *by Waste Extractions*
TCLP Extraction *by Waste Extractions*

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APPENDIX D

Pace Analytical Services, Inc.

Detection, Reporting, and Laboratory Control Limits

8260 Water				LCS/LCSD			MS/MSD			DUP
Analyte	CAS#	MDL (ug/L	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
1,1,1,2-Tetrachloroethane	630-20-6	0.195	1	75	125	20	70	138	30	30
1,1,1-Trichloroethane	71-55-6	0.203	1	75	125	20	55	150	30	30
1,1,2,2-Tetrachloroethane	79-34-5	0.221	1	75	125	20	64	140	30	30
1,1,2-Trichloroethane	79-00-5	0.241	1	75	125	20	67	137	30	30
1,1,2-Trichlorotrifluoroethane	76-13-1	0.42	1	60	135	20	51	150	30	30
1,1-Dichloroethane	75-34-3	0.225	1	69	125	20	49	150	30	30
1,1-Dichloroethene	75-35-4	0.221	1	68	125	20	40	150	30	30
1,1-Dichloropropene	563-58-6	0.165	1	74	125	20	50	150	30	30
1,2,3-Trichlorobenzene	87-61-6	0.23	1	69	136	20	59	148	30	30
1,2,3-Trichloropropane	96-18-4	0.503	4	75	125	20	65	141	30	30
1,2,4-Trichlorobenzene	120-82-1	0.223	1	73	127	20	61	140	30	30
1,2,4-Trimethylbenzene	95-63-6	0.155	1	75	125	20	58	141	30	30
1,2-Dibromo-3-chloropropane	96-12-8	0.699	4	65	145	20	53	150	30	30
1,2-Dibromoethane (EDB)	106-93-4	0.232	1	75	125	20	65	137	30	30
1,2-Dichlorobenzene	95-50-1	0.224	1	75	125	20	66	133	30	30
1,2-Dichloroethane	107-06-2	0.167	1	73	125	20	54	138	30	30
1,2-Dichloropropane	78-87-5	0.422	4	75	125	20	62	138	30	30
1,3,5-Trimethylbenzene	108-67-8	0.196	1	75	125	20	58	140	30	30
1,3-Dichlorobenzene	541-73-1	0.214	1	74	125	20	66	132	30	30
1,3-Dichloropropane	142-28-9	0.238	1	75	125	20	66	134	30	30
1,4-Dichlorobenzene	106-46-7	0.162	1	75	125	20	65	129	30	30
2,2-Dichloropropane	594-20-7	0.359	4	59	139	20	40	150	30	30
2-Butanone (MEK)	78-93-3	2.49	5	63	130	20	51	147	30	30
2-Chlorotoluene	95-49-8	0.215	1	72	125	20	58	147	30	30
4-Chlorotoluene	106-43-4	0.238	1	73	125	20	64	138	30	30
4-Methyl-2-pentanone (MIBK)	108-10-1	2.43	5	71	126	20	59	143	30	30
Acetone	67-64-1	7.06	20	69	131	20	63	147	30	30
Allyl chloride	107-05-1	0.583	4	67	125	20	45	150	30	30
Benzene	71-43-2	0.214	1	71	125	20	53	139	30	30
Bromobenzene	108-86-1	0.247	1	75	125	20	66	136	30	30

8260 VOCs - Water

Analyte	CAS#	MDL (ug/L	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Bromochloromethane	74-97-5	0.341	1	75	125	20	64	136	30	30
Bromodichloromethane	75-27-4	0.183	1	75	125	20	66	138	30	30
Bromoform	75-25-2	0.407	4	70	125	20	59	136	30	30
Bromomethane	74-83-9	0.357	4	30	150	20	30	150	30	30
Carbon tetrachloride	56-23-5	0.352	1	75	126	20	56	150	30	30
Chlorobenzene	108-90-7	0.231	1	75	125	20	65	133	30	30
Chloroethane	75-00-3	0.338	1	65	134	20	48	150	30	30
Chloroform	67-66-3	0.271	1	75	125	20	57	145	30	30
Chloromethane	74-87-3	0.636	4	39	150	20	30	150	30	30
cis-1,2-Dichloroethene	156-59-2	0.25	1	72	125	20	49	150	30	30
cis-1,3-Dichloropropene	10061-01-5	0.207	4	75	125	20	64	130	30	30
Dibromochloromethane	124-48-1	0.16	1	75	125	20	68	138	30	30
Dibromomethane	74-95-3	0.309	4	75	125	20	67	134	30	30
Dichlorodifluoromethane	75-71-8	0.491	1	50	134	20	45	150	30	30
Dichlorofluoromethane	75-43-4	0.22	1	69	125	20	54	150	30	30
Diethyl ether (Ethyl ether)	60-29-7	0.375	4	72	125	20	50	145	30	30
Ethylbenzene	100-41-4	0.227	1	75	125	20	55	139	30	30
Hexachloro-1,3-butadiene	87-68-3	0.48	1	70	138	20	49	150	30	30
Isopropylbenzene (Cumene)	98-82-8	0.17	1	75	125	20	64	142	30	30
Methyl-tert-butyl ether	1634-04-4	0.2	1	73	125	20	62	129	30	30
Methylene Chloride	75-09-2	0.565	4	73	125	20	57	132	30	30
Naphthalene	91-20-3	0.139	4	70	127	20	51	150	30	30
Styrene	100-42-5	0.11	1	75	125	20	68	134	30	30
Tetrachloroethene	127-18-4	0.191	1	74	125	20	50	150	30	30
Tetrahydrofuran	109-99-9	4.05	10	62	133	20	59	145	30	30
Toluene	108-88-3	0.134	1	74	125	20	52	148	30	30
Trichloroethene	79-01-6	0.141	0.4	75	125	20	52	150	30	30
Trichlorofluoromethane	75-69-4	0.184	1	74	127	20	55	150	30	30
Vinyl chloride	75-01-4	0.146	0.4	66	132	20	43	150	30	30
Xylene (Total)	1330-20-7	0.604	3	75	125	20	54	144	30	30
m-Xylene (coelute) p-Xylene	108-38-3 106-42-3	0.41	2	75	125	20	57	141	30	30
n-Butylbenzene	104-51-8	0.083	1	72	133	20	55	150	30	30
n-Propylbenzene	103-65-1	0.212	1	72	126	20	59	142	30	30
o-Xylene	95-47-6	0.194	1	75	125	20	54	147	30	30
p-Isopropyltoluene	99-87-6	0.159	1	72	132	20	60	149	30	30

8260 VOCs - Water

Analyte	CAS#	MDL (ug/L	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
sec-Butylbenzene	135-98-8	0.165	1	73	132	20	60	150	30	30
tert-Butylbenzene	98-06-6	0.185	1	73	128	20	62	146	30	30
trans-1,2-Dichloroethene	156-60-5	0.209	1	69	125	20	45	150	30	30
trans-1,3-Dichloropropene	10061-02-6	0.219	4	75	125	20	68	132	30	30

		LCS/LCSD	
Surrogates		Lower	Upper
1,2-Dichloroethane-d4 (S)	17060-07-0	75	125
4-Bromofluorobenzene (S)	460-00-4	75	125
Toluene-d8 (S)	2037-26-5	75	125

WI DRO - Soil Water

Solid

Acode:	WIDROS								
Acode Description:	WIDRO GCS		LCS/LCSD			MS/MSD			DUP
Analyte	MDL (mg/kg)	PRL (mg/kg)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
WDRO C10-C28	1.16	10	70	120	20	70	120	20	20
Acode:	WIDROEXTS								
Acode Description:	WIDRO Extended Range GCS								
WDRO, Extended C10-C32	10	10	70	120	20	70	120	20	20
WDRO, Extended C10-C36	10	10	70	120	20	70	120	20	20
Surrogate									
n-Triacontane (S)			50	150					

Water

Acode:	WIDROW								
Acode Description:	WIDRO GCS		LCS/LCSD			MS/MSD			DUP
Analyte	MDL (mg/L)	PRL (mg/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
WDRO C10-C28	0.0328	0.1	75	115	20	75	115	20	20
Acode:	WIDROEXTW								
Acode Description:	WIDRO Extended Range GCS								
WDRO, Extended C10-C32	0.1	0.1	75	115	20	75	115	20	20
WDRO, Extended C10-C36	0.1	0.1	75	115	20	75	115	20	20
Surrogate									
n-Triacontane (S)			50	150					

WI GRO - Soil Water

Solid				LCS/LCSD			MS/MSD			DUP
Analyte	CAS #	MDL (mg/Kg)	PRL (mg/kg)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Gasoline Range Organics	N/A	2.02	10	80	120	20	80	120	20	20

Surrogate		Lower	Upper
a,a,a-Trifluorotoluene (S)	98-08-8	80	150

Water				LCS/LCSD			MS/MSD			DUP
Analyte	CAS #	MDL (ug/L)	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Gasoline Range Organics	N/A	18	100	80	120	20	80	120	20	20

Surrogate		Lower	Upper
a,a,a-Trifluorotoluene (S)	98-08-8	80	150

6010 Metals - Water

Analyte	CAS#	MDL (ug/L)	PRL (ug/L)	LCS/LCSD Lower	Upper	RPD	MS/MSD Lower	Upper	RPD	DUP RPD
Aluminum	7429-90-5	36.9	200	80	120	20	75	125	20	20
Antimony	7440-36-0	3.05	20	80	120	20	75	125	20	20
Arsenic	7440-38-2	4.03	20	80	120	20	75	125	20	20
Barium	7440-39-3	1.22	10	80	120	20	75	125	20	20
Beryllium	7440-41-7	0.589	5	80	120	20	75	125	20	20
Boron	7440-42-8	9.07	150	80	120	20	75	125	20	20
Cadmium	7440-43-9	0.65	3	80	120	20	75	125	20	20
Calcium	7740-70-2	67	500	80	120	20	75	125	20	20
Chromium	7440-47-3	0.873	10	80	120	20	75	125	20	20
Cobalt	7440-48-4	0.56	10	80	120	20	75	125	20	20
Copper	7440-50-8	1.29	10	80	120	20	75	125	20	20
Iron	7439-86-6	10.2	50	80	120	20	75	125	20	20
Lead	7439-92-1	2.03	10	80	120	20	75	125	20	20
Magnesiun	7439-95-4	20	500	80	120	20	75	125	20	20
Manganes	7439-96-5	0.557	5	80	120	20	75	125	20	20
Molybdenu	7439-98-7	2.56	15	80	120	20	75	125	20	20
Nickel	7440-02-0	1.53	20	80	120	20	75	125	20	20
Potassium	7440-70-2	125.8	2500	80	120	20	75	125	20	20
Selenium	7782-49-2	8.26	20	80	120	20	75	125	20	20
Silver	7440-22-4	2.35	10	80	120	20	75	125	20	20
Sodium	7740-23-5	33.3	1000	80	120	20	75	125	20	20
Sulfur	7704-34-9	56.5	500	80	120	20	75	125	20	20
Thallium	7440-28-0	5	20	80	120	20	75	125	20	20
Tin	7440-31-5	3.2	75	80	120	20	75	125	20	20
Titanium	7440-32-6	1.9	25	80	120	20	75	125	20	20
Vanadium	7440-62-2	0.979	15	80	120	20	75	125	20	20
Zinc	7440-66-6	4.44	20	80	120	20	75	125	20	20
Hardness		1650	3300							

Mercury - Soils Water

cb/cb, cB/cB

Solid by 7471				LCS/LCSD			MS/MSD			DUP
Analyte	CAS#	MDL (mg/k	PRL (mg/k	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Mercury	7439-97-6	0.00696	0.02	80	120	20	80	120	20	20

ca/ca

Water by 7470				LCS/LCSD			MS/MSD			DUP
Analyte	CAS#	MDL (ug/L)	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Mercury	7439-97-6	0.0216	0.2	80	120	20	80	120	20	20

Ca/15

TCLP by 7470				LCS/LCSD			MS/MSD			DUP
Analyte	CAS#	MDL (ug/L)	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Mercury	7439-97-6	0.0648	0.6	80	120	20	80	120	20	20

15/15

SPLP by 7470				LCS/LCSD			MS/MSD			DUP
Analyte	CAS#	MDL (ug/L)	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Mercury	7439-97-6	0.0648	0.6	80	120	20	80	120	20	20

an/an

Water by EPA 245.1				LCS/LCSD			MS/MSD			DUP
Analyte	CAS#	MDL (ug/L)	PRL (ug/L)	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Mercury	7439-97-6	0.0216	0.2	85	115	20	70	130	20	20

Sulfate and Nitrate - Soil Water

Water			LCS/LCSD			MS/MSD			DUP
Analyte	MDL (mg/L	PRL (mg/L	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Sulfate	0.184	1	90	110	20	90	110	20	20
Bromide	0.0107	0.05	90	110	20	90	110	20	20
Chloride	0.0548	1	90	110	20	90	110	20	20
Fluoride	0.0084	0.1	90	110	20	90	110	20	20
Nitrite	0.0017	0.01	90	110	20	90	110	20	20
Nitrate+Nitrite		0.02	90	110	20	90	110	20	20
Nitrate	0.0033	0.01	90	110	20	90	110	20	20

Soil			LCS/LCSD			MS/MSD			DUP
Analyte	MDL (mg/k	PRL (mg/k	Lower	Upper	RPD	Lower	Upper	RPD	RPD
Sulfate	9.43	25	90	110	20	90	110	20	20
Chloride	4.85	25	90	110	20	90	110	20	20

WR 3/26/15